7. R. Fasheng

Collection and Field Note Book

The last the state of the state

(March 24, 1961 - June 25, 1961)

(41723 --- 41861)

	(TOOTH and Calma)
Pages	White the same street and
Edal	Hawaiian Talanda
-	
4720	Nowless Park Park to the Park
8-8	Captein Cook, South Mona
8-3	Specimens collected 11723-
	10.41
6.6	Mealifichus, South Kong
2-3	seed of a seed of the seed of
E-S	Specimen collected 41724
	Chilly all the second street of the second
E-S	Asumaleinu Forest Heaerves, W. Kona.
20.0	Specimen collected 41725-41746
E-5 .	. * Oblita-Calita apparation mensage.
100	and the second
6-7	On road to Waimen, nw of Mailua
THO .	Specimens collected birty 41748.
4	extend to be a second
	Marie Wall and the state of the
2-9	Pur Hulupule, Humanla Saddle
7-0 .	Specimens collected 41749-41757:
	Address of the second
	To Jess New Lencton Lievell
THE PARTY AND	DO DESSONATION DESIGNATION OF THE PERSON OF
34-35	Willauen Military Camp
34-35	Specimens collected 41756-41765
3.00	Designation of the last of the
Se Me	near Volcano House
FE-4E	The state of Double District of the state of
36-35	Specimens collected 41766-41768
	Links of the land
36-37	Sulphur Banks
	Specimens collected bly69-bly70
DE-GE	Oll Maskol Ta Tipo porrega grant
	Carlotte and the second
36-36	In Kilausa Caldera
	Specimens collected 41771-41776
	Control by Property and September
100.00	Windshop Descriptor
In Call	Rightles Pencilia
	Specimens collected 41777-41779
	C Pully Statement Statement
Id-Od	Crater Him Trail
	Specimens collected 41780-41762
The Chi	SOITH NOT THE WASHINGTON

were and men in brand

Collection and Field Note Book No. 61 (March 24, 1961 - June 25, 1961) (41723 --- 41861) 1-63 Hawaiian Islands Captain Cook, South Kona 2-3 Specimen collected 41723 2-3 Kealikekua, South Kona..... 2-3 2-3 Specimen collected 41724 Kaupulehu Forest Reserves, N. Kona. . . 2-7 Specimen collected 41725-41746 ... 2-7 On road to Waimea, nw of Kailua... 6-7 Specimens collected 41747-41748.. 6-7 Puu Hulupuhe, Kumuula Saddle..... Specimens collected 41749-41757.. Hawaii National Park--east of 34-35 Kilauea Military Camp Specimens collected 41758-41765 34-35 34-35 near Volcano House Specimens collected 41766-41768 34-35 36-37 Sulphur Banks Specimens collected 41769-41770 36-37 36-37 In Kilauea Caldera..... Specimens collected 41771-41776 40-41 Kipuka Puaulu...... Specimens collected 41777-41779

Crater Rim Trail.....

Specimens collected 41780-41782 40-41

40--41

Hawaiian Islands	
Air trip Hilo-Maui	42-43
Car trip around East Maui	43-59
Flight Maui to Honolulu	59-60
Maui	62-63
Kealia Pond Specimens collected 41783-41784	62-63
Specimens collected 41785-41786	62-63
Kahaleaimakana Gulch	62-63 62-63
Wailua Falls Specimens collected 41788-41789	62-63
California Los Angeles-Tucson (by air)	64-65
Arizona Tucson-Chicago (by air)	66-74
Washington, D. C Mall side of Capitol Bldg	75
Virginia (Balls Bluff) (Loudoum County). Specimens collected 41790-41794 "Falls Church 41853 Netherlands	78-79 188 80-83
Specimens collected 41795-41802 north of Starnberg, Pupping, Kochel Specimens collected 41803-41808	106-107
Schleswig Specimens collected 41809-41846 Specimens collected 41847-41857	156-161 178-179
Gosharde Virginia (Great Falls)	188
Pennsylvania (Westmoreland County) Powdermill Reserve	189-192 192-193

Field note Book # 61
seginning with # 41723
ending with # 41861.



Standard Miniature Blank Book

No. 665 9½x6 120 Pages Units No. 667 9½x6 200 Pages Units No. 668 9½x6 300 Pages Units

Made in the Following Rulings

Journals, Day or Cash Books, Double S and Cts. S. E. Ledgers, S and Cts.

Double Entry Ledgers

Records with Margin Line

When ordering give Number and Ruling desired

Made in U.S.A.

A BOORUM & PEASE PRODUCT

If found please return to 7. R. Forbery Pacific Vegetation Project e/o National Research Council Washington 25, D.C., USA.

Reward will be paid.

1961 Harvaiian 20. Hawaii march 25 - Captain Cook, South Kona 400 m. 41723 Hibisous brachenidgeis, savaiang Coun depressed spreading plant; cultivated in gardenofamy greenwelf flowers butter yellow with maron center. mas. 24 - Kealikakua, fouth Kong 450 m. 24 Sambueus medicana v. bigunnatifida shoul 3-4 m. tall; flowers planted generally around white los tending to houses, notendering a escape be folded, a few with lovoer primaras trifotrate. Mas. 24 - Kaupulehn Frest Reserve 640 m. in open dry frest maa lavgolp 25 Corculus twines flower with calys lorally common in openings whitesh, petals yellow, narrowly triangular with blunt apex. 4 26 Cyperus hillebrandie Boedsl. culms solitary, ascending. 4 27 Colubring oppositifolis tree 8 m. tall; fruit occasional immature. 2 28 Canavalia galeata va. twining vine, flower maron occasional in open standard with white shot and lines at base. (fruit from different plant, nearby). 3 29 Nothocestrum brevillorum gray
oreasional ferrea
4 30 Diospyros sendicionsis var. publicens Forb. her 6 m, tall. amall tree is mitally, dominant tree spreading, much tranched, corolla light marrow; fruit immaline 31 asplenium adiantim - nigum L.

Hawaii 1961 Hawaiian Iz. 41732 asplenium trichomanes rare, in roch crevices tree & m. tall; fruit immatur. 33 Osterneles anthyllidifolia (Sm.) Link orrasimal 34 kreyes wine creeping over ground; rare in opening flowers whitish. 35 Korthalsella cylindrica joints cylindric; branches abundant locally on decurrate; blowers all around Divelipos Genea nodes. 4 36 Pouleria Tree 8 m. tall; buds and young growth rusty trous. trond; flother whitish. y 37 Cocculus petals yellow at base, local white distally, narrowly triangular, emarginate at apex. 38 Kolsig Agnarioides rockin lewt. slender tree 5 m. tall! involveral hacts patent, stiff, purple above, green with reddish veins beneath 39 Peperomia leptostichya stem and leaves fleshy common in rock interies white tall sale yellow: petals while 40 angemore to glave var. inerming tall, saf yellow; petals white, nare in opening 41 Sida fallax branched; ealyx maroon. very common in spenings corolla crange with red centers. 42 Chenopodium oahvense erect showly 2 ms tall very common, especially inopening somewhat disagreeable odn small tree, of mitall, 43 Nototichium sandwicense very common grayish. 44 Fipochaeta nave in opening sterile small tree with drooping branchlet. 45 Xylorma barrailersos hillehandii Wawra

Hawaii 4 1961 Hawaiian 2. Twiner; flowers yellow. 41746 feneris mismioides OHO
4 occasional in opening March 24 - 150 mi. nw. of Kailva, 600 m. 47 Canthium ordinatum small tree 4 m. tall; common leaves glory; fruit immature. 48 Dirspyros feneg var. publicers Fool. fruit immature. mar. 24 - Pun Huluhulu, 2100 m. Humurla Raddle 49 Bromus nigidus locally abundant in on grassy slope 50 ou pratersis 2 51 Rubus macraci? forming dense masses 1.5 m. Call; fretals rose purple. locally abundant in boa frest 52 Coprosona mantana van. mantana print 654 Coprosona mantana van. mantana print showl 1,5 - 2,5 m, Tall. base of cender cone at edg of lava flow Mas. 25 - Kyuka Pranks, Hawaii national Pach of open areas with scattered trees 1225m. 55 Reconcenters Hydrocotyle sibthaliaids var. aedipus Deg. locally abundant in grass in shub 2-3 m, tall. 50 Piptums local around margin 97 Pipturus allidus (H. 2 A.) gray shoul am. tall. under trees

Mas. 75. Ripulsa Puaula toon sapendus become Regular trail. deminant in carropy. goes in through tall same, but with Pinnia. dehua from , rather open. around edger Dodonala and styphelia busher Then open parti-like areg with Lapindus and gran. not nearly so tall, one of From top of first small rice mixed mesophytic two tall lehver, one Persen. & clump of libotium. Itophan. frest with lehna, Lagindus tophna : Exychotria Osmanthus, abundant bracher, with grass Canthoranthum, Holay, Parpalum dil.) Coprosma, Myssine, Piptures Coprosma & Psychotia & lipturus saplings strictly under one small planted Kolic on eithe say terpendus + teling. Lome masses of Microlopia Main canopy layer here is mostly lehna with some tapindus. gouldin tree on it. mailed under story Coprosing by stake 17, type tree of one On Pelea, several Lophing Mysine, all rather small. Psychotra Osmanthus firevia, Fragana on ground Entering another small granium, conneling in open) partiland thru sapindus soplina on left, good isolated hors. furt above trail here is a sapindu with a good mass of epiphytic Peperomia reflexa on side away from hail

Photos - 3 of lehus four at entrany, both dons and spaine (away from park), several in sparbland, ind- Gouldia tree, one of box. general view, they 2 mere of hous. finds roll on open Lehve - hog next roll Tix - alors in frest of leting Trumbs, views, Elotium Microlefra. Views above & Lebow haid in libra for. blen mixed lehma tapinde with Charpentiery Coproma, Psychotics Softing in understay. ground largely ban except marrer of nephrolegis and micropio and a large mass of 1 epennes - 2 forms of I reflere, large or ground, small on they trumby side by side. (stake 24)

Then into open parls like leiting with some boy, some & Coprosina and forphra, Piptimus. Grass and pephrolepis exaltata (golden pubercercison rachs but blunt los.) Oteridium is generally abundant with Cyrodon, anthoxanthum, Park-dil. Veronica plebija.

Rather dense felica
freet with understory
of Coprosma, I sychistria,
Pipturus Ormanthus,
Pelea

Strawberries and Poa myound locally Mucrolepia of Eteridium. Much bare ground Hymen Hypolepis?
On ride trail grant brog 4 times my arm spread around.
perhaps 25 m. tall.

with little undergrowth below with much, osp.

Photo- farge lebrig trunk with anomore former very, in school point end roll on Pepermis robbers ground com. More open-part, with Parvaria, Stramsia, Copprosoms & Pytums in understory, Myreine. Ormanthur, Soplook.

Then on M. generally dense faprindus & lehug mitte thick under story then broa savanna. Chance of . Lapindus lehus partitard, some I systotice Trail gres into they and it gets closer - typically open forest. Hibiscadelphus planty mught, flowering and puiting well. 3 m. tall. I maller one above it, more glations, muched Hibiaus giffardiann. Hibisus brackemidger planted 30 gg m. below it. Then, muced mer freet m at, has tehna savanny in left.

Mar. vi - path 4 crater rim acrossfrom KMC. Lorut of Styphelia, Vaccensum stunted lebovas, Dodinaes

Polypodium pelluredum
on left in low lehua busher.
It. also. Leveral Ladleria.
becoming common trad the
man. 24 - sam.
On open spaces of bare
quound congra canadensi
vas. pusilla and bulbostylis
capillaris are very common.
The latter is found anywhere
where there is loose ash of
a sandy texture.

Coming to the rim an average of a solidified lake of swirling lava presents itself, with the opening pit of Halemannan in the middle distance. Ting tripts of vegetation are scattered over this lava, and plumes of steam vise bere and there heating by great cracks and seen who the chiff in are separated by great cracks and seen who the crater. (to prage 17)

Man. 26 Flat in front of Wentworth House, Haw. hat. Purh Scattered lebra up to about 8 m. tall. spaced 2-10cm. ground generally evered by gleichenia a few Hex and Lantalum scattered in This, much amaller than the lehus. astelia common. Machaering fairly common. Rycopodium cernulum common, finilax occasional. Dubanting scaling and Dubantia occusional. Vaccinium reticulatum very common. I if a 4 don. tall; styphelia tam. fadleria cyath. common. one small colony of Rubus Coprozona emodicides local in thin places in the Gleichenia. Lacriolepis occasional. another your nave, (coll.) Rhofully there me. Jahnis gahnineformis rus Hypochaeri, radicato rare

Fragain rue. Vaccinium Jahalas? 2001.c. Vace calgarine re Polyport, pollwerden our. Niavella common Getaria sp. n. Holan n. the above description applies to a strip about 100m. from the cliff was. It is cut by many cracks. but from the the letrus are large my widely spaced. Retween ther is a nather open sent, inequilar, 0.3-1, rarely 2m. (the should over I make young lehna), af styphelia, Vaccinium ret. Dødmaen, lehua. In addition there are, s. fadlerin c Pteridum e Lyr. con. o ketaria c Hypochaeris rad. the fragaria c Hypericum jap. c Deschampsia e Sperobolus (with smut) oc Polyhod fell.

c Comosma and.

cladonia is common on opened. I antropoga clump seen. Farther out the letura is closer together again as a straight sworth has been out through this to below the cummin home from

The offect of this road man be bressen by observing the land along the present dist road running in from the front corner of KMP.

and corrising this and correspond the spead in for about 18 m on either side.

mar 26 Crater Rim Frail from front of KIKC. turn left -The regetation hed is the same love sent of Styphelia, Vaccinium. Dodowaes, Audleig, and Polypodium, with scattered small metrosideros, no the Gracks fadlering is abundant, the plant with linear braid gross like leaves is Machaerina angustifolia. / angley gleichenia linearis var. tomentosa is common q lot away from the rim. The large yellow flowers one Denothera sticta. the smaller ones Hypochaeris nadicata Dubantia is the small shoul will consprenously 6 ranked short lance blong leaves. It has small yellow heads in cluster when in blown. Cyperus is a noccasional week along the trail as is al andropogo virginium, Sporobolus elongatus and facriolepis contracto. a native tussoch of ming

grass, not so common, is Deschamping

The abundant soft red berries are Vaccinium reticulatum (ohels) une are quite edible. The trail follows the rim a few feet from it. forme' variation marke noted in the letwar - a bright oneen bush is on the right a short distance down the trail - but most of the trees are the common var meana, which whomize ash and lave as the trailgrendown a short defile the nomero Chinensis, nephrolepis exultata, and Wilstwenis sp. mas and Juhning galminebami may be seen together on the bank to the left. On the slightly love, level at the bottom of this is much sparser and lichens gives much of the gound. a few yands along from this are distance and direction penns.

along this trail is the common this trail is the common the Runopean authorizently and along parts of the world, also letain generalate of the blaccinium print is ribe great variation in size, color, and tacte will be evident.

Just before the trail corner out outs the steaming flats gleichenia lineari becomes abundant on the right, with Lydredium commen, the strange little tree-like plant with hanging come on the tips of its branches and long runners arching between the erect bruiting The most. light gran up the traff with until english timb needle-file from f Chipsopogo acidulatus the vegetation becomes very low and dwarped. The lehvas, now very widely exattered, ah her only about in tall,

everything else is less than half that. The abundant gray mors That shares the bone spots with the lichens is the widespread In the first steam crack, on the right dwarfed Sphenomeris and nephologio may be seen living the edges! (Experiment with smoke) In the second opening Pashafum obiculare is common, and ityrogrammy calenclanes. The right hand brand of the trail follows a great steam crack filled with luxurant nephrolepis cf. biserrata . Carpet grass 1 azumopus Compressing) lines the margin and is abundant out on the Plats The Amall purple flowers her in the cracks is Crypter carthurnonic. The Harvainan lingulal L camperin va, is also there. Charge of andropogo and several of arunding and fruthogether an found back of the Ateaming wiss latie terchenailtons. Heming

bluff langely save of regitation at the top, is just to the right of the tral. Believ it a slope of lava covered by lehung and glerchena. The trail down to the Caldera floor man to seen opposite around the curve in the clift. then another large steam crack on left. at an intersection there is a chord of three trails. right wenter a town open lehua frest with an abundant targled Crowned layer of gleichenia. a good growth of nephrolepis exaltata (or M. hirsutula) may be seen on the right of the trail the next crack is s. large one and in it is a grant Melypteris fern. In the meit one a slender their and Pityrogrammer, ferns Spathoglottes plients in the crash and along the trail. I be under story gradually

25 Show they with stip points leaves in Hedry the glomenata Frechis magellanics tops at sander shoul along overlanging Trail. above namon defile tree germs, Cilotium cham. (hapin). at end of defile, and Cytandy cf. condifolia. under gotall Cibotum about of Hedgelium of. and mat of Selagenella of. Tritoms. Commeling diffuse. Climbing trail - Psidium call single slinder rapling to it. Mat of Hypericus jap en ground along side of trail. Celwa borest gets lower. Hedyotis oflom. very common in middle the part of tricen in afor low letma forest. In left after trail levels off. Copresson - small the pub. Leathery Cibotium, fruit more open. Tangles of gleichenis. Intersection Trail to Let. & pares Hg. Hedyehimm

abundant. Enaped Krs

abundant. Inch ginger. Heterocentra!

Erigeron Karwinskytao

1 olivana

Fort Path Valcano House & KMC. Though a shave young lear planting weedy grass areg: Erigeron Barn., Tritoma, Commoline, Cyterus breviflans Crymodon ductylon, Rubins bendran, Rosa (taly was) Cyperus compresses. Pirhalum dilalatum, Cyperus sp. Desmodium uncinatum Bidens filoso, facerolepis contracta, anthrounthum odnatur Hyporhaenradius Charober rose. Pennisetus clans. Holeus lanatus, Tritoma Johns great mass by veg. epid.

Cet end of mendow en champ of anamental Albodo. dendron get. 7 sbouching on left. on it. a thicket of Morris sp. and Tibouching, Hedzelium Indum guigna a slander bamboo.

Enter open lebus word, with Hedyshium and 7 itoushing Parks, to it through open lebus with Gleichening farming deep tangles, with Lye cern

trail leads to steaming went with sulphun deposited on earth and on plants.

Across from this, at end of road, is a spectacular deposit of sulphun on a steaming bank practically deroid of regetstion.

flat with very low vegetation - gleichening din flye. cernulum, l'asp orbinilare Luzula, y per small behun and Dodonnea, to 1.5 m. tall Ereclitites val. (puple) (rase) l'arundim and)

& Styphelia
& Valeinium reticulation
& andropogen ving.
o Sphenomen chinensin
a Sphenomen chinensin
a Sphenomen gahniaegovinis
c Cyperus op (comp.?)
& Cyperus op (comp.?)

Much barraged pround in einter barraged plantering depressed Findristyle dichotoma Dodonaca gray mon cladenia, Waltherial D. Lacurdepis, congra can. patcher of neph. exult. (dwarfed), Sphenomers, or machining ang.
becoming commones, Rehug becoming commones, Rehug becomes commones frent to left. Then loprosing and. along trail, Hypericum jep. Honolokus elong.

Then strip of leting fred with abundant Sellens. to open gleichenia tangles with acattered small letura. to Steaming Flats, with great steam crachs. Right forh at sys them tra gleichenia Lyr. Cern. opshnu, Vace Dodernach, gray more mister. giving way to low gleichenin tangles. Pluches odprata in trail. hephrolepis of hirsutula locally abandant. esf-around steam vent Trail shirts inner edge of flat along ely of great, thru gleichenig tangles. Small trail to left on to more evered flat

large erratic browlder, I large erratic browlder, (thrown by 1924 eruption?)

back to trail which gentines through gleichenia, patches
of open ground with lieben and won. low

Vacas Porl Styph. week.

More gleichenia

Condyline to it, at book of love obiff. seach. book where trail turn, toward low chiff some Carachum

low chiff some Cameling esh. var. hillet. grana, Rubrus pen. Destroining uncunatum thathaglatte peph. + Lyr cen dominats Rosa seems sterile but has spieal.

Climb seap ant flut
with apen loved
lehua and bruch
ag lehua Dodonaeu
Atyphelia Pteridium,
Latlery Glercheny
Voicinium ret. Dubaula
Voicinium ret. Dubaula
Omothera Gahnis
Leatherd, Sentalun:
Leatherd, Sentalun:

Mar. 24 - Crates Kem Dr. feft at rind Park Jet. Veg. a Styphelia- Nordonaea sirul with scattered small lehua, becoming rapidly sparser till shows. Observatory. Much steam corning up from all around put, and from many place. on caldera flow. Driggly weather probably makes much many Vegetation on this high ground both sparse and deproved yound of covered by ash. Bulboslyti abundant in open ach, I own bull both serul and trees become more denze. Where road flattensont ugain view left show very sparsely vegetated as beds in lower level. then a var watercourse. then road is down on love level. Vegetation very spans - scattered lehves 1-3 m. tall, small stypholis + Dodonau. This Bulborthe Congra and trifts of several

weedy graines. The ash surface have is somewhat inducated into a court, where extreme almost is regetaling south of Halemaumay. But in a bowl shaped depression to left of road a dense mixture of should - Hordonaen ftyphelig and weedy grainer, sedye, desmodium, etc. on fine black sand. Tregond here rolling land with very little vegetation - an ash desert. graphaliumy, ecallered with a congra can. and an occasional little tuft of Aubantia, Styphelia etc. in places where love ash has accumulated on The indurated lays. Cross a series of cracks which are the six right of Kilanes. hen alpumier field with notable weed veg. Desmodum animators V lantuy lan. Sprobolus elong. Setaria Verbena bonariensi

1961 Harvaiian Is. Hawaii 35 34 Mar. 26 - east of Kilanea 1220m. Military Camp, Hawaii national Park in low metrosidews frest. fruit yellow. 41798 astelia menziniana 5m. dense tussoch 59 gran Deschampsia nubigena Hbd. 2.1. 60 fuzula compestioner. hawaiiensig 61 Carex cristles somewhat yellowish 62 fetaria geniculata (lam.) Brawir. occasional leaves concave. 63 Vaccinium reticulatum 5 occasional 64 Stenogyne bohen rochs at lace plant, of m. ling; plowers bronze color. leave coneare. 69 Cenchrus echinatus var. hilletrantii Mar. 24 - near Volcano House, 1200 m Hawaii National Park (L. LO.) A. Brid Boulle 66 Eyperus polystachyos Rotto . very common in Imeadors flowers white. 67 Hetersentron roseuss subtriplinarium local in low weedy brush prostrute, borning 68 felagenelly knowsisma. f. Br. abundant in evet place at Good of cliffs on Landalwood Trail

1961 Harvarian Is. Hawaii 37 36 Mas. 24 - Lulphur Bunks, (200 m Hawaii National Varh in Open depressed area 41769 agrantis avenacea culms solitary or almost so, 70 Coffee of Imbristyli dichotoma prostrate, whole population very common, the only vascular Thus alwarfed. plant in lowest part of depressing Mar. 24 - & lats southeast of Halemauman in Kilaney Caldery Hawaii national Park clump 0.7 m. high; mate 71 Kurnex giganteus f. giganteus flowers light green; maters oscasional in open fruiting calys before purnice bed drying, so very pale green. should or m. tall, 72 Dubantia ciliolata (DC.) Keck flower yellow. occasional on punice beds 73 agrastis avenacea 6 mel. have on 1790 and crusted ash surface. 74 Graphalium sondwicense var brilaneanum . Deg. 1 Sheeff locally common on bare ash surface substrub with thich 75 Silene struthioloider gray locally common on base ask surfaces - fleshy tap noot. very rare on to pumil.

Man. 27 - Crater Rim from KMC. + tunn it at im. through irregular semb wath along in a note that the section of im you we on is separated by a big crack on A. Willare thally gall in crater. Polyproduem finilar sandy in trees on it asteling under they fadleria eyall, very good her not anthonyania in young los. pullostylis in tail. that slight revegetation on lara late. of crub here is of Atyphelia, letre Dodonaen, gleichens Vaccining, Coproma ernor. hadlering machaerine any. after 100 m. or so ever at lavelles trail. 10'm away from rum. Veg. becomes a but spring. more in cracks than m level ground. gatinis galin. & Rugula may be seen near edger of enachs shelted by bushes O per ground has lichen Bulbortylis, Hypochaens, Conyya cam

Colony of Jolyferenium Schanthoide in trail over 200 ming. Aphenomer. feret besomes more luxuriant, trees larger. for a short distance! fantalum rather common. Then on it a large bush of vaying fays, with conspicuous erect branche flotly after the vegetation drynin becomes often lower and me offen. I enother commo in open place. Veg, becomes lower, were open letura gener, until their is as much or more open ground than veg. Occasional great bouldes rea trail were thrown out by steam blast in 1924. Neg. more and more sparce Then up a lava seay more small trees on the rung I fust before this, Infolium graterie - Ting cotony in ash.) no trees on top, sparse serub with consp. elongate Coproma and. Volcand obs. Nwekahuna

Harvaii 1941 Harvaiian &s 41 40 I wanter get, on clear day Robbout with good a very good view of the view of Caldera & Hale-Kipulia and morais maumay. Circulas of vegetation or stoper of faults, Steam, etc. main hom. tran front tron high ground bet. Observatory and Kipuly Mar. 27 - Kepuba Puanta tota Irrim Hawaii natimal Park tree of m. tall, flowering 41777 Hibiscadelphus giffiardians Port abundantly, per corolly small planted tree in edge maron curved, not grening of mesophytic (next fruiting (fruits tardily deliscent). tree & m. tall, flowering 79 Hibiscus hualalaensis sparsely; corolla green, small planted tree in opening in to me white frex. bright yellow green within, curved not spening. 79 Pismin internis Endl. en Walf. a small tree 5 m. tall. common P. umbellifera (Forst.) Seem. 1200m Mar. 27 - Crates Rim (rail bet, Kilaney Military Camp and Volcans Observatory 80 Santulum paniculatum shoul 2 m, tall, leaves bull, yellowish green, common breally in mixed 81 Polypremum seleranthrikes common in trail for a short distance not seen elsewhere. 82 Myrico faya single tree in miged serul.

42

just below nd. on nt. Open farlang semb. Nic. glavo common along rd. seattered Erything and weathered aa. Black love below along My sporum. Canthrum. Or. Duospyros + feling da with Dodonala ump and the alcurates. argemene. Sprinting, very bare lower Pately of engyly lelus Down 29.0.-3 Leaps of dry freet Reprolding, Reprolding, Mysporum, Canthium, Shortly Lantang. etc. Niestiana, Locanusa nothocestrym, argemene, Erything, Hornoeg tuboide, Mirabilis Micandra

(Hunnemaria, Forniculum rederración, along ad. Lantana about, grass below. Very rocky. Soil gow. Rider piloso, Opentie London, Oce. Engline, much amaranthu shu. Nicotiana Lantano. Tridas, pilene gallica, Oprintia - grass with fautang. Lemany, Cynodon, Passifleray. 33.5 Verbesing comma. nothocestrum latifolium, Have been descending for (on left by nd.). Cheng. valvaence Ugn pasture with Leucaena, some time. Larrant probane, duntis, Very rocky, little fartans, rather little grass. with a few Engthing. Occ. Dodovaca & Cantheum. tourcraea below on Book of. Upuntia very abundant on lebt. much Operatio. Some hereaux, one Prosopro tree. Much fartana. 740 mas grass, les aprentis. agenne common. 3 Conda cones on left. with locally much ra contains sereb and some grass. 74. Conflict in rame. same on it. pelow. Tatches of Erigthing below. Ther are probably sept. en ension. another ginder come on left of Right of Right edsig & Engthism 36.7 grave, les mels in

vec. Muloui : Krupsarea dowe ocean monowaining. Forms. Leucaena. Kanpo Selvool. 44.4 360 dry goge "Euphabia sh. Jorge with waterfalls on depreseld, shootly on walls. sleby. View of Kultoni for grassy slope. sere zili tratches on mix. 37.9 another, samalla gary o Kahal esimaliani q. Enything getter on dego with about Engilorbin 449 Atream with Engening atriplex, fice. Atou. Turnstone · Redun, ets. Then of 37.8 another. prob. batter stoy. int. Theretis thicket. frum here- grans over. Wer low Psidium cott. leiave, est. in ravives. Engenia tobelinus bust. 12. noon., Pebble beaches. Kulmi in ravine. gargewith flat wely bottom Apectacular rocky cours 7 hls frostin savanaa. Windsbeared Lehirus 39.4 Proseris thickets on et. Eucherbia seve. forama. Hav-wangs fret buken nur - bay with oly landing. · buranes in gulch. Prosopie thickets. O zimum Expludia + Osternela on cliffer on left. Prosofies, fencaena semb Hav- quava. with appretis and a feet many Mango, quara Indrum catt. Bry Thrus on steel eloter we bluffs. 4 (0 grassy slopes. Zenaisecommon. mango gnest with Vanslever. 41.6 Lenemens scrober At. A. Fourtrales with Engenie then on both sids. cumini. quinos gras partire & Leucain, Ichinns Wet vally well lenking. Har. Water felt. 42.6 first form worth of kanks fal. Ret Caldinan catt. Com. Eugenia Cumint. Church it bestetia direket my breadfruit. Pandance er ellet. Mich fenedeng, some tokinn I'm sprade up from this Canavalia mirrousha on it.

for Medeinos is Chairman of Commissions.

Clark provide extension freme ceres on land, some of it to be filled, in center of pund. Parling areas shall side. Magazine areas to be retained in find.

M.C. or anduling for, should look into this.

59

Flight main to Honolular -Lower slopes of w. sid w. mani are in sugar, that is, the flow rlopes bet the quilcher. Mototus - s. coax considerable one development. but with gale of mouling stown. Fower half of slopes, including all the flow slopes are in parture, sought mavefrest on lowest hart and studing fruting in your tellers redges as tembly enoded and farther west the gran gre almost to logs. forms slipe and navines in often Prosofis frest or savanna (whoward). green grany area in back mangrove revampement

61 60 be Bate. a few bare avas in them forme red silted areas also. Dry sembly vegetation, probably Prosper, grass, and revoled areas. quary slopes being actively gullies. seems to be almost all worded more. frest on west end . also nain western beach that may be a march surrounded by Isiawi frest.

mari 1961 Hawaiian Is. 63 62 march 23 - Kealin Pond Im. south side of Isthamus erect. 41783 atriplex abundant on sand back of beach much branched eroplant. 34 atriplex common in edges of saling flats around front, in rand anvali, w. of Luabailua Hills, mas. 28 - south note of 485 m. marin, bismi, logond they the board Wash . on dry an lava sloper blowers white. 87 Morroes tuboides v. Costit. common small tree. 86 Drospyros ferrea vas. pubescens Forb. con occurrend in remnant of dry frest mar. 28 - Kahaleaimalana gulch, Maurawainni, prostrate shrub. side of mari 87 Emphabia common on cliffer of small Mar. 28 - Wailua talls, 50 m. a mi. s. o. of Hana too fair sized tree. 88 actocarpus altilis (Park.) Fost. very common in gulcher along ward. 89 (alga) Oedogomum of that ophora if I mostly Pithephore "to abundant on rocks in falls "tet w.s. gilbert

apr. 3 - For angeles - Tueson (Constellation, left ude 5:30 y.m.) El Segundo sand duner are completely covered by vil refinery and houses! Valor Verder Hills - a low density development, with areas not occupied by houses either in a golf course a very well manieured. & few sean on bull tops that look like sand diggings, my a bry quarry and a nearly area graded in harible terrace square presumably for building. Santy and mts. have very considerable areas of Chaparal intact, also a road up to a radar station in a peak near the summit . Rothy weeding Hills east of here dry bare, little if any chapanal. san Jacints leak with no visible snow. When fealy and ridges very rocky, almost exo of vegetation West stoke of summit peals looks as though it had divaged alpin regetation. Considerable freet in refer In valley by telm springs

and Indu what appears to be a dry take - cultivation intermittent on either side of it. part of the bare area apparently laid out in house lots. In this falton her - if so, it must be dry. mornings Valley still untowilled escept for road Little dan Bernardinas and bare as I remember them. Chocolate Mts. also, though there seems is be regetation in the bottom of the canyons. several parallel roads along f, a. aqueduct, anone rast series of bare france, coming out from a long straight moduration range front, undoubledly a disserted fault scarp. Some rand along this, and especially a Carge frile of it near the eastern end of the hond valley through which the aqueduct run. 66 1941 ariyma

apri: - Tuesan - Chicago (707 jet left side) (Departed 10:15 a.m.) Valley above 7 mism - for some distance a series of emplicated washer haided on the floor of a broad flat wally Amall check dams. forall revine cut into desert flow. then a rather large ward with considerable vegetation immediately adjacent to main stream beds. Westream this of order into many small streams in a dendritie grattern. all this is fairly undisturbed desert. at head the course passes over an imperceptible divide into another stream system. left, with dense woods regetation and a few green cultivated patches & in bottom land - open desert therwise mountains to left of the well wooded at higher altitudes. Beyondhere veryspans decent vegetation on not very rough land, then or cultivated rates with a

scale cultivated areas The mountains again with ping frest and many high very many bealing to mally from a belt of lower worked mits, and hills across course this mostly spare low word - possilly pinger-jumper, much grais, esp. eastward whereit gradually fades into desert gransland. Some incised meandering stream. Vernal forde? I yhiral bugh plains. mostly thing grans, should areas locally near water! courses. Morain with some Govert to left snowy Missin distance. Detail of regeteetin pattern in plains below very interesting with relating to water course, low erosing remnants or meras. Would be with examining on ground. Kather large reservoir on immediate left. along river below this, extending and meandering eastward or southeastward, some very severe ensing,

exporing bright ned material. Course follows This wer. Vast granland, erosun wherever there is any relief. Then, very locally, some cuttivation, but here away from river. no bottom land cultivation - mo bottom lands. Cultister arear larger eastwards grass between them that nother spans. feathered rand durch along the course of were but a little way on other side of it. River become notably larger. With a red color, sand bars frale tawny. Land dunes also tawny, no more cultivation after ment de beginning of sand dunes. after sand duns area, vait plains locally with many venal ports formed by damning small water courses. Still une evoring, locally serious. then store rives augmented by a large tubutary from

in dictance to math, gully ervsin locally very comprisions, especially south of nines. River Crossed and month and of niver they gets larger, gets closer to large cultivated area on north. Extension plains on both sides of river. There have been no trees along this river no along its tributaires. Small cely to south of sive. Bleak! and whil appear to be an oil field a east of it. Course still parallels vive, Tubutarier ay dry and very sandy. River bed unde and braided. Terrific gully error in complicated dendritie fratterns on both sides, especially the south side. Vast cultivated area not for north of river. Crossed wives at 11:50 l'artly cultivates, evoley plains, one intensive cultivating to noth. Becomes more sportly to notheastward Thurst open strin grassland. hard out in squarer marked

My wads. Then a red area, rather deeply gullied. Rather a lot of cultivation to mally. Many dammed up gullies forming small fronds. 11:58 crossed a broad braided were course at right angle. no conspicuous woody regetation, then more dendritic gully systems cut into red plains. These gullies beginning to have wordy vegetations in them, flat between them grany, gully sloper tright red and bar stattered cultivation. Led area very large. gulles mon generally worsted and stor inves bottom lands cultivated. at about 12:05 land become generally cultivated - some small grassland areas. but 80% of area under cultivation.

12:29 Typeha and Kansas R.

Phicago-Bultimore-(left. sid 20.8) 7:39. Month over labo then east. Crossed shore where it turns north. a new area of woodled dures - 7 poner at north end, some

sang execuation at routh end highway parses m Country to east intensively cultivated, but many small, laker and worded meandering stresso course. not very green at this season. a very few small wood lots. forth west part of Lake Trie has a sens small archipelage of islands of raried sizes mostly largely cultivated. Fredly in m. e. Ohio an appearance (from 27000) of some snow remaining in elingate tratches, as against feres, etc.

I ust before landing crossed what may be a small surgestive haven penglang land with a few small pine. I with a few small pine. I want going north east toward Baltimore. Not a large area lossibly only an altered partie.

1941 Vinginia april 16- Balls Bluff there in bloom in deciderons words on slope Jacopaga viginica Hedyotis caerules antennais plantaginifolia Claytonia virginians andlanchie arbredmichette Directing Cucuelaria (1.) Bend. Viola Gazanta ? glahous gellon rigenia bulbora (Michx.) Nutt. effermin dephylle I not flowing, Egilophyllun thalistions Hydrophyllun vrymun (no) y. Languinaria canadenses (part) Trillium sessile fluction maybe to Poslophyllum pettatum (buds) Engthronium americanum Mertensia orginiany Viola cumlata asiming triboba (bud) acer sagehaving put) Lindera benzoin Amilacing racemay (not ff.) nefeto glecom hederaca Congolalis flavala (Raf.) DC. Stellaria media allian officinalis (buds) Attacky as Janium furpureum Enthimium album Thalietum thalietuit

76

78 1961 Virginia Loudown Co. 79 april 16 - Balls Bluff, Polomac River east of Leesburg in Deciduous words on river beliefes blower ned violet, 41790 Viola cucullata ait. center dark. occasional flowers light world. 91 Viola papilionacea Bursh? common prostrate; corollar blink, 92 Vermica hederaepolia L. palling very easily. abundant 93 Lamium purpureum L. dark purple, corolly cornon locally small loose tufts. 94 Pag cuspidata Mutt.? common

netherlands - germany 83 netherlands 82 1941 The heather quite local. under story. Some Pices. Much young frest - planted? Oalex and other broadless, trees dominate landrigo Pine is the most prominent Hills slightly higher larger tree young five is notable but many other near arrhem. Robinia Joung trees - Vopulus tremuloides Robinia? Stands of pin abundail with out. generally have a brondled Fefst arnhem 10:17. Flat country, but hills under stry, but this is in middle distance & left inversely framinent according and in far distance ahead. to thickness of fine stand. Salin alba, mostly pollended, Wichets along tracks commen Meadows with in place obscur view. abundant Ranunculus. Cytisus serparius es locally common on in embanhament Some Thickets and patches of 10:32 pine frest- Cytisus locally also Calluna. mostly grass common along tracks, flowering. or planted age mixed mixed hedge common, agriculture, mostly daining 9:44 First low hill a knoll. esp. along in. Cratalgue my But this is isolated in generally various other shrube and flat countay. Soil becomes small trees. fmalf orchards. Mainly gray rather than black, but 10:47 grain field, meadows, 1 this varies locally to yellowish Vitches along tracks and or brownish. roads with some water or 1:30 Entre-Wageningen. More low brills cuts with heather. Country becomes mud, march plants, shoulds. halix, etc. fow flat wet land, mostly gently rolling. Patches of meadow. roller young fine forest 10:52 Very slightly higher, (P. sylvertin). Heather octory slightly rolling, marrely tracks in rather trans strip. grain fields. woos of trees, small forme Cytions. Leathered young outer, bircher, Populus. Thickets orchards. Just beyond Mekrhoog some and patches of small oak.

germany 84 1961 Durseldon Hbf - an. 1759. 8.12:15 fairly large fratcher of pine work. Mee parte (2) with many some Picen, birch, oak trees, pande, etc. just out of fine small swamp fresh. Itill city on it. Then smoky large print works. Several generaindustrial area. tions of plantings. Considerable birch. Wide area of grain fields on absolutely flat land. Robinia. Rolling land. 11:04 Wesel. Much industry in all direction. a few nows of trees, apparent generally pasture with some woods in distance on both side, thickets and woods Cytisus locally abundant in water shots and Trees and hedge principally along or. Rumex acetosella (!) also. around house and village. Fangenfeld 12:15 Worde - grain fields, parture, some orchards and woodlats, mostly another frightful industrial 12:19 area - smoke and fume out, Tilia, etc. no fine. limiting vising and almost new Dinslater the soul has as choling as in Cours de Parco. a thin dark layer, below this mange nice gardens back of bouse. Heavy industrial area, much smoke, Large strip of wood on left. from here to Oberhausen. grain and potato fields. Oberhausen is a luge horible 12:23 Coln-Mulbein - more inclustry industrial expanse. Sambucus seems to be the an. 11:23 Oberhausen Hof. lv. 11:37 dominant eveed ther in for bills in distance to left. waite shots, un embanhment, a Duisburg 1969 11:42. ls. 11:45 Vlatanus comm street tree. frostry industrial area Kobinia abundant, flowering continues. Some patches of fine wood. 12:29 Crossed Rhine. Cologne Station. def. 12:92 Then grain fields largely nge and pastures. Rows of That intensively cell button falix along ditches. Lone hedge to it. Vegetable, potatoes fruit trees. Crutacque, bambucus. Woodlots-Dusseldorf Unterall -Route at good of bluffer slant to climb. Phine Dusseldon is another big horrible industrial place but perhaps immediately on left. not so bad as Oberhausen.

89 vroded bluffs again. valley here much wide, more agricultural and Castle on irland, photo. (bod) less spectacular. 3:12 Kives i roide. Channel 7.46 Spectarular churcher and marked by levels, but towers across vives. water outside lever Lockfmansen?! arwell as inside. Photo of castle across from Extensive veneyard, on gentle sloper along her the towns are fingle islands in sines. long and marrow, at fort misture of fields, orchards of bluffs along river. Vineyards on town slopes. Weisbaden - probably signally Heeper sloper wooded. for wooded islands in river. a beautiful city, but now fine ruined castle across rive. industrialized to rightness. 2:51 another above a broad bar Main Valley is broad · in rive where many and nuther blat Vineyards, people are camping. achard, pastures, grain Vineyands on terraces and semisterraces on left side 755 Fattersheim main. vines stabled up on wires. Wires running who and down slope. Much interplanting in all there orchard, assmanshausen Strawberries abundant. Steep wooded bluffer on Sambur abundant along w. side. Bringen across une photo. 4:07 Frankfat am Main Helf. Moustower on small reland (plots:) 4.20 left Frankfort. Crossed Mais, Rudesheim. Picturesque m. station. recentiful nows of forbardy Vineyards on e. bank slope, and in lower in bank slope, poplars. 4:25 & rankfort (main) fud. dense woods above. Hectaculas Intensive tuck gardening an church on top of bluff m w. sid. orchards on bottom land. Turned east along thing. 4:28 Vatcher of Jun rah woods

90 1961 germany 4.29 Offenbach. soft softwertier meadows and orchards M. in in low mt. mow, 4:30 fairly large fine first on at. yeartly wooded 4:33 more fratsher of June 4:35 Stennhein (main) crossed main mostly mixed woods. forg turnel. Pin frests with in inequal 4.16 Patches of fine and spruce. settering at least & terrace levels of beech too etc. Anney along main her. it han a definite 4:70 Hills in distance on both sides beautiful would beech frust and ahead. Thickets and trees prominent in landscape. and the pratcher of him compen. aschaffenburg 5:30 Country wooded each plat Hills with planted fices valley bottoms and patches frosts, some frene-sprice. of slopewhich are pastured a lower stopes and flat in cultivates. ylling valley land cultivated. 5:40 Valley now very wuch wide. Main R. 5:07 Frests on hills as much 549 gemindes. broadless as comper. alove, the valley narrows Hedges of Crataegus, but bew. again - wooded sides, flat 5:04 Hosbary bottom with meadows, along Hills become bigher and a mais. bit more stigged in distance J. 18 Broadens out again. on both sides, worded, very Cultivated. steeper sloper brushy a woodel. Fagus, Pices, Tilis, Guerens Fagus, Princis Carium?), with very thin undergrowth exist 5:55 Karlstadt (main). above this nother wide flat valley blen, medum bills. partly wooded in side. at edgs. stop in woods. Their fields on love A few trees along river. 608 Wentzburg left 6:17 Laufach Sep. 5:13 Marienburg Castle on hill of of. Becutiful valley, lower slope Rolling hilly covered by grain cultivated, upper parts fields, some thickets. Sambueux. of wills wooded. Grain fields,

Bavaria germany 95 1941 94 Thates line in worth alfr. near numbers, trees comma 1400.1700 . Central alfo. 2400 Thera patchunhof pine Agot en 1900 m.) frest and grain fields. village, agriculture becomes Cytimus abundant on cuts, in less to south, dairying mus - too wet to south then the narrow flat valley runfall more than doubler. bollow is often, the gently torest on edge of morain sloping sides wooded, mostly fine. acquipmendoplalanon The primes on these planty Monuscamp friend frests are very closely spared, even after the truck Sambus have reached but beight, Pices plentel + xous are very well self primet. but not lange in diameter. Beyond Mobiletetten there is 10-12 mp nees farmium gelergitilon some heather, but only very regolioding locally in openings in him woods. gein wale anthriseus still mostly fine goest Rubins but a mosaic with field of Colchieur antummal Grann Varis 8:20 Open rolling country, only a Unties divises gen patches of forest. Januardus Langinous May 21 - From munich south munich Listera ovala Bady den common memory in stalley of Isan R. by auto Kochel fer frymplylum officerale plain south of Munich in of Walchenter gorm. Tentiary gravels. Tenaces. Impatiens moli-tangero Terninal morames. along Winn R. WURM Planted Pices front with in Winnsthal below Stambergure natural reproduction of in flat & bottoms of beech. affine species found here wide ravine cut my on peat bogs. moraine.

Rigustrum vulgare 1941 germany 97 96 Low hilly land will beech frest, flat broad Adoline mezereum Itedysamm's mosum selow stamberg. Some Daphne cnever (beautiful ph.) Lathyun gratensi planted Picea in beech a Therium forget. Orig. freet 90% beech. (Huel) ftambergersee is in area pilulifieres Volygala chamachurus glacial valley, (much like Enphantra Hinges dales, n. y. & but in Psylla trilobun lower country.) Extensive meadows, with Onobanely moure-brown cattle rich Agulegia vulgam nerttin hudun-avi ? flow of flowering herbs. Volgala comoza on rolling land. Rellidiastrum michaelii This morainal material ally gentiany acaulis is chalk and dolomitis in Globularia nature. Much planted CPrimula farinoso Pices frost. This is They musifers between Stornberg and Walfret-Cyprification calceolus sphansen. These morainer Listera are of small gravel and Perpheral area is open finns to 15 mir with full should layer of Juniper I sar Valley Loisach R. ground layer of Frica & moss. On vive deposits an open ind waying from spenforest to savanns. dwarf vegetation with much blatter, Pinus sylvestri very ofen, jumperus communita Than 30 m. and dense gran Vibrumum lantano and some beather. Gring earney and find talry aux Leveral Carex shy Enploy Pin with my men. Convallassa majaklida latanthers Terosimin ? humbel globularia Vinguicula

germany a little Picen, exally, Dryar actopetals bought from alfr by river. Salix purpunes Tragopogen (les yellow) Englisher galium break affected by Puccinia form Polygonatum oppund elongate evert branches with Orchis militaris hooder sente more astrania major seattered leaves. alones incans from alps Valering hymphy tum tuberoum alectorolophus (Rhinanthus? Plantage alfring? Jetragon lobres silipuose array from moes, on trighter terraces an almost gravel terray dominated dense frin frest to vom. by halix "alnus. little undergrowth. out. I fulus temula me ping escelt some Liquitum archis militaris common, Oretris latifolia Crutalgus Chrysanthemum leveanthemum amelanchier vulgain Thatietun agnulegifoliun Janascacum vulgai Patentilla silvestris flat open plain bet . Im + Foirach. Meadow - furrounder by los hills, there densely wooded. Several terrace levels, mostly spruce, head. Im. a more apart, sifferent sprice mostly planted and stages in dev. of pring reproducing open forest. With valley licea Rosa alpine tends to invade meadows. Voerberis vulgais meadows in beautiful Bioentello Caevigata flower. l'etosites nivas Konigsdorf Vibunum opulas

100 1961 germany

rolling to billy land, on mostare of meedow with patelies of field sol, esperous. in munich 500 - 600 mm.

above Bishl are mostly densely wooded with Pieca fagus ste. in an inequalar insais.

Inow or linghes peaks.

Timber line on first range.

1400 m. Some cleanings.

Bartague architecture very characteristic. Benediktbeuers ebunch and enormous monastery a good escample. Phytos of landscape and plowering weadows near Benediktbeuern.

- Large ofpen marsh to below of Kochelee, cut for shay, with a few scattered trees, local pert bogs. above Rochel very abrupt linestone wountains. Picea and falfer forests on them, very inequelar masture. Considerable there pseudoplatanes. 1961 germany

Valeriang montang Constondings enally Primula elatia Regnilegia Streptopus Sactures muralis Melica mutans Galium sylvaticum

This seems to be about the general vegetation on the dolormite slope. Howesting of timber is taking place selectively.

Pase and view of Walchensee photos (last 4) of Walchensee, freet and mtr. around it. Mixed beech, maple from from the stoppes of dolonite.

Bet Kochel and tehlehology
extensive march with
Phragmites, local areas
of pedge bosp with Cares of.
Chiophorum folystachyum,
ati. clumps of falix.
Betula along road embanhunt
planted. Varying to wet
meadow with Ramunculus
meadow with Ramunculus
on glacial outward plain
(morl in lower layers, ace. Heuseh).

Beyond schlebdob toward Munnou, flat meadour surranced by grantly wooded bills. gracial ponds. Hense Price frest with almost nothing beneath on low hills. Flat-bottomes valley with meadow vegetation - agopodium, Trolling conspicuson. extending we on low hills, with scattered querer petrala. anthrisaus exceedingly abundant, Tragopogon. Kanunculus, Chrysantheman lencanthemum, Melanding Hieracum prateres galium of verun, Festura elatius (?), Trifolium maters, etc. in great luxuriany and abundance. Thickets along streams O-hlstadt. Mits rise very steeply like a wall from near there fowering. Then tages week Piece. on tops ound Vices again westering marky meadow, cut In

1961 germany

hay storage wall barry for hay storage in whealow have trollies in whealow in Ramenciles farinaria, Primula farinaria, Crehis-lalifolia Examples farinaria, Crehis-lalifolia Examples farinaria, Exiphonia Exiphonia Examples of Palix.

Jarge areas of Phragmites.

Mournan from from this of fine gravel with grass thickers bocally cultivation thickers buttered friend.

East-through Eberfing the billiness increases a bit, fornewhat more forest.

Mean Leeshaupt - some birch

Sternbergerser - narrow belt of Phramites in strong Where not ourspially dwillings and villages There are meedows ond plantes fout back from west shore of lake on slope than cost are thickets and forests of slonder saplings. Love patcher of swamp in low shots somewhat away from the lake.

is also a large marshy and of glacial outward.

Extensive Ricea Greats on road bit. Sternberg & Munich. Forstensieder Parks.

The general pattern of frest distribution on the moraine area has little to downth soil characteristics. Itself slopes are generally in forest. Otherwise it may roughly be a matter of distance from a village. around a village the closest lands are libely to be cultivated, next in meadow or parture, farthest away in forest.

germany 109 1961 108 status with cross arms May 13 - rail try - Munich est dry. The low wet Hannover - Mienburg. brieadows are quite feft munich 8:15 am. colorful with flowers. Travelled Through a The soil in there is very flat plain, in the black. meadow and cultivation, the amount of Govert locally wooded. planting is less, and 8:35 Dachan more confined to rough some low hills, mostly blaces and exampments. in grain fields, rougher alluvial material. The write follows a flat valley bottom with rolling bulls on 8:39 Still rolling hills, either side. The wet some rather extension tion, talk and dense. mendows have cattle grazing them but do not appear to be very There continue, alternating heavily grazed. with large ofen areas The amount of greet in of grain, some meadow, the distance is greater. without hedges and The patcher (small) close with trees only ravely. Occasional villages with to the m. are of guereus. Hop fields interspersed trees and streams were in grain frields on rolling lived with busher and hills. Wires strunger treez. tall yroles. Same type of landragu, 8,59 Varry extensive area of trees (Greenen, etc.) mire frest, partly Pincy from flat valley partly low inequals oak. bottoms seem marchy, or at Cytisus in frenings and least simewhat wet. along truchs. Hay-making in this area 9:16 More hops. presents some difficulty Extensive marshy plan and the cost grows is with some drainage ditches. drafted over frames or

114 11:25 Rolling open broad valley small putther of fine and Vine on low hills around it. vale forest. Much fune in 11:24 Rolling landscape with mornie of patches of fine distance. light brown soil offeredly Pine plantations on low hills Valley bottoms in meadow and sandy, Meadows in low cultivation 11:12 homebills also in grain. flat areas, yellow with Canunculus. Understony of oak in 11:28 (ine not comon excell fine plantation, mostly in distance a N. For only rather spring, except when buest on low hills to leftpine is thin. Where it is very Broad valley between thick there is little even of with grein field and herbaceous vegetation under meadows. Village. forme 11:16 Time over most of brilly area. alfalfs 11:30 Frest patches on both side, Then grain fields on rolling mostly out. Alight land to it. fine on left. almisture of fine. Then a small town 11:32 Markt Bibant surranded by outtrated Broad valley - cult x meadow. fields, esto grain, fine surrounded by oak fract Wantations farther away. on low hills. balving fratensis (?) (darly 11:35 Thorain of oak great and pringle) and Melandrium (bright rose abundant on embanhcoll. grain fields 11:30 Open rolling land, Calcareous ments and roadrides. mostly grain fields. 11:00 almost all in firm plantation, most of there pines ay and alfalfa 11:37 Higher brills in distance, erf. well grown in treight, but still of pole size, self pruned. to N. and ahead Tobs wondled. 11:40 Sphofen 2 Thotos) Open rolling cult. landscap. 11:22 Open country around a town. Oak and brotagus Thickets Very little wood. newstant bouses in suburbs. 1114 Mannerbenhein (phots)

118 Hene woods on bill tops thick great on both also beach + sprince. side, inequearly I mit trees along roads. muxed, oals pin beech spring Ramboltz Tinnel. Then an one of cultivation Soil distinctly redded. ontentle slope. Proportion of fresh ligh a Then jump freed on it hilly ground. Mixed give & beach or left, tatchy. decidures Robinia on cuts. form patches of cult. fine. Mostly oak with on it. Then open stops on left and right. 1:14 admixture of other things. Nove thick muscled forest. 1:40 Brandenstein 7 unnel. lunnel. telp worded stopes Breech frest on it. Open valley gentle cult. slope. then hilly country with Medges. Redchiel sandeton. beech frest. Valley, grassy Orpen hills on left, some thickers Alpher cult remiterraces with bredges wooded above. Bush word on it some planted Pieca. Back or limestony. Both side of valley Cratacque bedga in gramy worked. Beach with june cerenting. ash wordson Then lower stoper cult. Hedger fairly general wigh plucy teathered oalis in fields, also semitenaing, Dryspteis filiamas common. freit trees. (read woods, some only and 11:23 climbing on nd. Village 1:47 beech admixtury, some with fine wined cartle beech frest. in other ride of valley. more red sandelme, shalf. Valley bourd, cultivated, 1:49 ridge tops only worded. Oak words. Rolling hilly country meadow 1:40 Cosataegus hedge. fong trunnel stefferity Tund. grain fields, patcher words 1:32 Sterbfritz. hedger. 1:50 Hueden. In plain is an Hogh willing grain fiells.

120 wooded hells, mices enormous conval pilo of white material, probably a Tune and oak some buch, docally planted mine dump. This or left. 1:57 newholi 2:33 Forest principally beach on it. Princy on left. Then Large frest in distance both sides. They much June and beech on itclose large patcher. Offen rolling grain home out mortly conferous. both sprace + pine. fields or left. I'me wood on hells to it. Flatter areas in grown and neutrucken. Open valley 2:01 mendow. Hills is showe frest fields. Patches of oak word. Flattest parts are wet merdow. 7:07 Brongel. talise along streams. Flat fandscape flatten out. valley bottoms are flowering 2:05 Tulda. left. 7:10 Open country with scatter meadows. worded hills. Fine bedge of Pruny Hills with oak frests, some + Cratacques. (3 photos) moster of fine then another winding 2:17 gitzenhalt (2 photos) Many small village valley, lower or more in rolling platean. gentle slopes in cultivalia, bettens in meadow, willows Pine plantations on along stream ravines, fere surrounding low hills. frest on billtofes. also some beech and link Dad Hersfield. Oak frest frests. time mixtures. on some tills, some admister in forme spruce with a little of beech, some other with frime. Then frene, and only. o much only & beech, allowed. plantesfrine and spines. Valley narrows. Hells wounded Open wide valley on left. almost entirely greated. Woods on gradge in distance. with smixed conferous Wide rolling open country. a bow trees and bredges very and decidnous from. Mixture of worded hills lozally. and cultivated walleys , slope, V.30 Veat narrow ralley with

122 fred. They cultivates Wide flat valley with hills val treet locally meadows, grain field, surrounded by wooded Extensive rolling cultivates 3:23 hills. 2:50 Bebra. left. 3:01 took left finh. land. Parturer with seathered Trees and showles toward Kassel - no it looped on steeper sloper. Tree, bale to right and crossed mostly give and fruit trees. The other fish. apparently Broad valley with 3:25 we are going ving follingen. gentle slopes, light junkish Vast open valley aroung Bebra! Climbed slope red soil, semiterraces in many Tlaces tomo above the town. Skopen Horded hillsand steel are all covered with grown slopes, out and pine, fields. R.K. cut worded separately or mixed, cult. with Robinia, Dryofters Gilix-mas abundant bereally valley between Them. then open rolling whomas patcher of 3:33 valleys and hills, few forest become frequent, trees except fruit tree northy planted Price. Thickets and hedge of Cratague, oak orcasimal short hedges, Robinia, Lalix. Imal valen excapments, willow along streams in flat Steep escarfinguts have valley bottoms. High hill, 3:34 in the distance forward out words. Patcher 3:13 to the night. Hay wits ?? of oah word mixed Valley namous, and sleep some with pine , beach, 3.77 hill and small mountain Tunnel. 3:14 close it in densely they prosair, of worded with a fratchy grain field and forest moran of broadleaf this locally oals, beach, and coniferous frett. a conferous, a mixed. Farrly large stream a 2/8 Climbing, stil. in bottom of valley, which Mixed sprice, Jin, beech, oak

124 is cultivated. Robinia 4:06 Valleywiden into an extensive plain, bills locally glong on. Some Bad- sorden wide flat place in in distance on either side. a city on right at base of dill and on love slopes. valley. Werra River. gottingen left 4:16. 4:07 blopes on left alruft, deny Groad flat valley, rives oule word. On it gentle Tunaces. Leine River, Valley and cultivates in lower grain field, Hills on parts, dense fait, prob. oraly about. Occasional both sides forested. patcher of amiljer. Benedly Greates ridge on both rider Barley fields. Trees around 4:29 3:44 Valley navor again, steeper slope tirested. Crossed Werra. Costle Church on hill to 50.00x. villager, and some clong (Ludwigstein?) 7:49 feft Weng, into hills to northern, left 434. At. Hills grantly cultivated, 4:30 Still the same broad very partly, esp. steepes slopes, flat valley, intensively frester. cultivated. beech and pine - oak a sunny Patch of pine and of beech frest on low hill to it. Itherwise grain fields. 3:57 Cichenberg 41:44 Valley narrows between rounded hells, wooded Broad chiltinated valley is place with beach with villages. grain and showe, and, some fine. fren fulds, home hedges (custages) Higher hell nainly with wooded know, mostly oral words beech frest. Hill seem shalky. Willows along streams. 4:41 Kreiensen. left 4:51. Orchards on flat ground. Flat valley with worder meadows on low lying flat ground. ridger on either sid, mostly beach. tills beenne lower. Feer worded. grain brilds and meadows in vally and on lover slopes. Obernoise.

126 5:00 Freden. Wante places with marienburg, on the over left much famburen nigre. 5: 46 Nordstammen Valley manows somewhat a couple of worm 501 (crossed Leine ?!) but botton Loveral similar but ever lower hills in distance, stays very flat. Rounded hills in sides mostly have Otherwise the country rather abrupt, densely is now a vast perfectly freited slopes. Rarely flat plain, Judging cleared and cultivates, where table can't be more than more gentle. Flat bolling a few dry below the mestly meadow. Ivil surface. Some slight a gray hown, apparently rather sundy, with rather undulations a short high water table amalf distance to an either side. grain fields, small win some occasional. 5:00 alfeld. netrald, thishets, Valley widen somewhat. willows along watercourse Hills still densely wooded abundant march plants alone, with lower slopes in dilches, fonds, and cultivated along streams, nows of Valley much wide, som mila, crees, esp. along wall., bottom flat, but with a sum wet meadows, but most of area intensively couple of river tenaces. Phraymites in drainage cultivated, dileber. fruit trees very abundant 6.03 Elze. left 5:19 in residence areas Relief in walley bottom somewhat jouth of Hannover. Hanner. lv. C:18 greater. I lat buttom less 4:14 extensive. Broad grain second start. Suburbs are in places really fields. forme bonde and marcher. Willows around like an orchard with houses there and along river. among the trees. a fine patch of mixed brondless boreit, pool, 5:29 a low deme-shaped worder The garding small shacks, edgery town. bill on either side a castle,

128 mostly open scatters Howing development. vellages, nows of ugly banacly but with house, areas set aside for gardens, 4:46 Extensive very flat ofen fruit trees, etc. Beyond This grain fields l'atcher of residences with much frest indistance. gardenland, Willage and farms. then ofen plat land some thickets, more gaiden C47 Woods on left. Patches of pine in right. Picea, young Wood almy waterway. somy pino. a town, feelige, with mixed word on left. . more gardens and fruit Land becomes very slightly rolling. heathered I nest auron men to left. patcher of woods. almost continuous garden. 4:50 Flat ofer land, frest many house. visible in all directions. Residences this out some 6:52 Land somewhat rolling Patch of oak frest on it. many patches of pin. Then on both nely some out featheres 033 Then open freeds. halis and oak in low frall fund wood or it. flat areas. some oals & willow also. Mixed thickets. Arme Ping in left with understay green fields some very of oals. young fin plantings. Then fields. Folk to A. Open fulde work Him black soil woderlain by yellow sand. was of trees along canals. Row mited frest for The luftines along embarkment. me distance, then 4.47 fow rand bill willy oplaing, more frest. scattered fine, then now tall oally then usegular mixed freed, mixed with fine. mostly oak. 6:56 Buch fred, then bene, 644 mue patcher of fred, various misetures meadow. mystly rale open and 7:00 nienburg - cultivalion meador, freit. inegrilar. For cultivated land.

germany 1961 130

> Incen's laboration, -They have made, in all, over 800 maps, most of which have not been problished always a basic mas based on plant associations. Then various derived maysof water levels, of soil moistur of freet and agricultural fortential, of brinds of trees and crops that should and should not be planted, ele. These must depend on a great amount of correlation and experience.

Thost speciacular thing in institute is collection of soil profiles. is to dig a fit, smooth off the derived profile. Then spray it with a laquer dissolved in a retone. allow aretone to evaporate. Then give a doth to this surface. Then cut away the layer of soil next to the cloth. Bring it in to lab. Lay it out on a masonite sheet, give it down. Then share it down to as thin as possible while still preserving the feature Dry throughly, then wash well with existene, which brings

Zillages potalus rye

Barly

wheat

may 24 - n. s. of Nienburg
on sandy moraine as
dense plantation of pine
and calluna heaths Pordsuls.
Guerceto-Betuletum wieg.
On less sandy soils the
not veg is Fago guercetumnos entirely cultivated.
Glashof - 2 ploton of house
typical arshitecture,
or viches soils p. 46-6.7
Guerceto-compinatum, on
tonace of final. the Rives
but mostly Fago-garesetum

On sandy soils the landscape is a morain of blocks of pine plantation separated by smaller areas of cultivations "bulisseen landschaft". This is to protest the open areas against wind erosion.

On the aller glosd plain one areas of almeters betweetern and some from stands of Myrins paried by fire. Permanently wet from high ground water table. Frazino-blemetum wet from invadation.

autobahu to Harrburgthe grass-cover on readings
and also the tree planting
done according to a
phytosociological map.
Resulted in far more
successful stabilization
of sand and botton growth
of trees.

Correlations of associations with soils result of thousands of observations, with grown water levels result of hundreds of observations.

gruerceto-Betuletum landscape on moraine dominates by Pivus sylvestii plantations with, where not cut out, underston of Betula and quencing areas of Calluns and of Cytisius seoparin solve testuca ovina planted in Sep shoulders of highway. This is a strongly produolized took soil.

Toward Hamburg change in landscape - while greater also also brown have Fagus Greats also oak. This morains is a bit younger. It will not quite so from.

Much less birch.

134

a vait allowing plain of Elde Carty soil - alvetain.

falix alba common.

This in the outer parts

mean maine - wetter and

more human.

Near river dries, leas

huma. Frasineta Muetum.

Solize freet along

river Physiquites march

Tides im as mere.

The Frasinotum olightly

higher thore almetum.

approaching Hamberg -

Bayond Hamburg - first
the middle meaints with
Fago-quercetum. Then an
older morine landscape
rolling, lacking freet,
sields separated by Calaegus
Congles bedges. Rotation on a 7 year
Crycle bef. grass and crops.
Helgerent back when crops
are grown, allowed to growing
during opers period, for protection
and to some as pences.

Ltill Fago Quercetum.
also quareto Carpinstum

Conglin toward Kiel. all these bedge have a low earth wall at base, deliberately built and repaired every 7 years.

"Forstkultur" - forstliche Bezugsgenossenschaft Frankfurt/Main, Bodenbohrstock, 1 m lang

Dr. Siegfried Zingel, Reinbek bei Hamburg. Bundesforschungsanstalt für Forst- und Holzwirtschaft, Abtailung Forstschutz 136 Roadricke is firstind fingel, Keinbek bei geranium robertianum Hamburg; Gundespassehungsanstell fur fort- mid Hotzersotschaft, Unties divines Able ling profischer Tilia qualyphyllos Viria foil profile taken with galium apaun This instrument was sandy graxacum offavulgas light brown, somewhat Kurnex cristin: grazish in repther few melica unifolia certimeters, not well differentiated into horizons. a pit duy in a flat mixture- light gellowish trown, (Trees almost 30 m.) about 60-70%, Fagus, 30-40% och. no shoules ex saplings of Fague, tolors (very few) In wood herbs -. a Wilium effusion aspenda odnation & Stellania bolostea Maianthemun bifolium c Carex sylvation Verming a asperula odrata Lugula pilosa a geranum robertianum attryium filist feming (lineara lutetiana? Stellaria (large fl.) La Orcalis acetosella Unemmy mermong la Unemore memora Cares sylvatus e Rubus idaeus? Tagues sylvatics lind. whowdest evelling 4 V. champloly e Vennica montana Frazinas electry c Canunculus Giraria Milium effuson n Lamum (yellow) galespitolin "Forst kultur" = fortlicht Bozi gserrosserich itt Franklich / main, Boden bourstock Im lang 2 Melica uniflag a Testive sylvatics nes Carpinus Virla sylvatica (2) Fraciones Exclobrer sontamen

From map by the Litte to Schleswig - Holstein seems to be young marine the western half of and alluvium, maritime march.

Division about the long axis of the isthmus.

may 26 - try by bus - fethering to Flendling & glucksburg. Wet marely meadous along south shore of feblie across In Schleswig mounded hills a bew m. relief. Hedger of Corylar, Crataegus and various other shrubi and trees, cut the landscape into small fields of 1 - several acres. No firest but one or two fields seen newly planted to Picea.

Giby = some patches of firet
Piceo some admixture of broadleaf trees, est around mayon Only locally. New hedges are (species, Old ones, to 200 years, rup to a dozen species of shrubs. Buttee - stop. small lake surrounded by

march of Carex strictus

with fringe of scripus locustry

140 1961 germany Schleswig 141 41803 Carex arenaria on sand bank, edge of Schlei - great of Fagurand quercu. on moraine. brancher assending 04 Veronica montana in edge of thick flower blinch violet 05 Veroning montana in soil plowed earlier in flowers bluid wirlet 06 Verming chamaedry in roll plowed coulies in small tufts, culing spreading-07 Luzula fribulifera common an soil plowed earlier in branches, petal, white, 08 Stellaria holostea very common on soil plowed earlies in

142 on margin of water also Phragmites Shrubs of falix of scattered inregularly. Coren withaty of And around margen of 10 m. Junsus battien, Lugula camputics anthocanthum odoration, Cepis: Marsh is discontinuous feight has come in very recently with increasing entroply. Raminaulus celerating , 2 m. We slope very slightly a dry meadors China carryophylls 17 praein Testuca ovena vulgara Hierarun pilosella , Ornithopus purpusille Viera angusty of un Cerastrum semiderandum ··· arvense Krimer acetrollis Voly trishum juriperinum Hypochaeis & Lugula campellis anthogenthum octoation

Beyond here - occasional

Very naura point in Schlie

Vhragmites marshes, but very

small Blifts about 5 m. high

missinde

To be seen in middle distance Houses brick with thatch but now yorthy filled. Sieseby Patcher of wood very sporsely sugar beets meadows. Wall fets billed with water, surrended by busher. many more are markedon 1/25,000 may than are now endert Wingmarls. In hedge Conglus, Ryinga, Kalin 2 26%. Creetalgus, Lambucus, Premis spinoses Rosa Eurymus, Guercus, Salix capies, S. purpures?? Schwonsburg 15 Mpt. saltaless. marsher of throughoutes photos. fringing water. Juneus maritimus (pholos) with armeria. hummochy for grazing. aster tripolium Testucqueha, Junus gerardii Clantago maritimo, Clantago agosting thinkers, Raying moutimes ameria martina

tuned right of niibeck. frast Rockery a patch of beech frent Horsthoppel her Tall dense from with oals ask carpins Where cutting transfeen done on edger, much reproduction of beech. There is no shrub layer in dense part of fruest. Canoly almost complete, about is m. Trees to 5'dm. Abh. spraced 2-5 MG m. la melica umplina a asperula odorala. Impatiens mole-tunger a anemore nemora e Stellan bolortes e Viola silvatica Milium affricam Vermica montano Carex silvestris neottia moluravis Cleanum robertianum la Ossalis acetosella

Stellang Mohungia trinewin

c Rammenlus langings

a lancula emopea

Circoea luteliano

Thiloburn montanes

The entire profile is fine sand with a pew pebbles of blint.

Beautiform sand misely with shells and published smuch of it has no vegetition of men and teling thrown my in a soul drift line.

Corally patches of

Elymne arenais

Grenais peploides

Tarascacump.

Tarascacump.

Tarascacump.

Testuca arundinaces

Potentillo anseina

Festuca ruha

Rumex crispus

Calamagostes epigaeus

patches of Rosa nigosa - dense

planted batches of Rose myora - dense,
love 3.4 dra high
loveally covers beach plat
ampletely, Flowers very
large, a beautiful deep rose who.
Murwig
Flensburg

152 Where there is a hall in canopy shub layer is 3-4 m ed Luzula maxims a Apelampyon pratence la Reschambris plesures ea forbus aucuparis (menedye) la maianthemmen bifolium c Tuentalis emphes I association of subamoustins aced one plants marked v rather sharply distint anemore slightly mixed in putcher of Reschamping and lugale. V & formera periolymenum v la Vaccinium myrtallus Ever a considerable onea dugula maumi is completely dominant in the vegeto ground lays no strules. Canopy somewhat broken. a larger of 1 dm of loose dry duff, Then of dark humur fillet gray sand.

> foril fit shows q thin black layer, t- 10 cm. I duff not layor Then 30-70 cm. gray sand mottles Then a dark brown lays fording grichly into a mittles yellow and gray sand-

Luguer - fagur.

Schleswig 157 156 1961 germany may 24 - Langballigholy, 3 km. e. of glucksberg small tree. 41809 Ulmus scala on steel wooded slope on morained gravel. 10 Bromus mollis common in edger of wet mendow 11 Bromus racemosis abundant in wet mendow 12 Luzula mascina (a sylvalica) common is acid words on 13 Equisetum hyemale very local in acid woods on slope dwarf shoul; fruit immature. 14 Vaccinium myrtillus common locally in and words or stope 15 Polypodium vedgale L. rare on sandy slope in acid words 16 Juzula pilassefera common on sandy slope in beower white 17 maranthemum byolium abundant locally in acid woulds 18 Luzula campestris cirmmon on open evoded slope 19 Equietum pratense abundant in rich woods blowers white. 20 Moderingia Mohringia local in inchwoods flower blue 21 Myozotis zaeshitosa rare in wet meadow leaves blink green. 22 falix cineres common on edge of front and wet meadou 23 Carex distans common in wet meadow in diane sort 24 Pra pratensi var. humilis abundant in dense sod in wet Neadow

Schleswig 158 1961 germany 159 41829 Triglochin palustris occasional in wet meadow in dense sol. 26 Juneus gerardi wet meadow abundant in dense rod in 27 alopeans geniculata abundant in dense sod in root meadow 28 Trientalis europadus the chizomes thread white. commen in beach breet May 20 - Horstboppel, near Neubirchen in dense beech was frest flowers white 29 Stellaria nomnum va. glota montana 30 Carex sylvatica flowers white. 31 Lanicula europaes flowers bright yellow 92 Ranunculus laniginosus common 33 Milium effusum common shipping brittle; dark brown except white tip. 34 anemore nemora abundant 35 Viola montara common 36 Melica uniflora local diffure; flowers white. 37 Mohringia Trinervia

felleswig 161 160 # 1961 germany may 26 - Missunde, on felilie Finds 41832 Carex otrobe common in marsh on edged find flowers minute, blue. 39 myorotis hispida odsasional, local may 20 - Birt see in rather dry sloping meadow, rather open & 40 Festuca antigoring or vulgare abundant prostrate 41 Omithopus purpusille orianimal 42 aira caryophyllacey very common 43 airy praecos common in bare spacer between tufts of other species. 44 feizula campestris very common in dense sod 45 Ranunculus celeratus same - in edge of marsh same - roadide ditch erect, blower whit; 46 faxifraga granulata bullilets out at base of common plant pinking,

May 27 - bus trip tableswing -It wown, north, back to teleswing. Left the terminal young Inderwig, or blat outwark plan biler is common, Piece is planted, soils are violet, as in old moraine Populus Tremula applars. feliny. Hedges have no typinga, not much Conglus. Landssape has become very Cultivation principally me and polatoes. Practically no brest except in the four distance. Hedges have no conglus. lilberstedt. nutural negetation in Fago-quercetum. Silberstedt Forst. whether tagui - quereus forest much opened up and inegular, some Carpinus Alirub layer Khamnus franquis frenews forbus anenpara planted freeze, Rubus sy.

Herb cayer: o duthorsalleun dontes e - a fteridium aguilinum Lonicera peristymenum Stellaria holostea mecampyun Deschamping flamos Trientalis emofaces Luzula polulifera Conus succes maianthemma bifolium Vaccinium mystillus Nayopleris spinulosa William effusion Rigopteris "spinulosa" Oxalis acerosella The long succes forms a dense colony recupying an area a few m zquare. (Moto)

Hoil profile:

4 dm. very dark hown, perty.

below this a dark mottled

gray, yellow, dark hown down to

the water table.

Evidently an old Calluna profile.

Meanby in a low wet place there is a propile of perhaps 25 cm. of blackrish peaty send and gray mostless with yellow signed and gravel beneath it. I next her beach, atom, alder,

Shoul larger Querus Francis Carpenius Crataegus Corylus

Carex silvating Raminulus. Viole of aremone nemony Genery

Lavierda emperes

menty.

Treia

Polypodium vulgare common in this region on sand, on north slopes, also on trees.

Lamburus, Crataegus, talez. Lorbus mecica, alinus, quercus felivesing and here in old moraine, almost absent in outwood plan.

However to m. e. t Engeloburg. along this road forbus succica is the street tree.

area of oak serul about

3-4 m tall dense m sand.

Lime Rhammus, Populus, Crataegus,

Enicera Veril Lorbine aucuparia,

Rhammus, Coppied every 5-4 yeare.

Fagus has been climinated by cutting.

Herb larger a. Convallaria majalia

a anemore memororum

c Polygonatum multiplaum asterile gran Holcus mollis c Pteridum agrilinum

er Stellaria holoste

&c Guthoranthum advatury

la maianthemum bipolium
Open Calluna heath willy
planted Land, ficeg, etc.
Lome very small Popular tren.
Enpinus of Lugula pilulipera
centhoxunthium Juneus storamosus
Descharepsea

Love margin very inequelar lower margin very inequelar appearing scalloped. Immediately below this severy at meets a dark yellow brown and which becomes paler and while downward mottled downward mottled downward to blackish. Black fine bits, very inequals.

may be inexpient outstein.

Entire profile fine rand.

moth of city a large polder enclosed by a dybe. 400 years old. north of this very low form to send maine gentle slope down to maine devided by low earth will with I low barbed wir fewers slanting in opposite directions on walls are carefully areas ruly, Romes are area festures ruly, Romes are areas the features, testures ruly, the areas the features of the areas to the features of the areas the features of the areas to the features of the areas of the area

meadras between their have a firm sod, with much Ramusulus, lorally Juneus. Much Bellis

Beyond beach, low walls of poles and wattle num out in shallow water for reclamation. Then sowe as baffles, standing the strong ebb which would carryout the silt. sort the of on much in redomation areas agrostis stolonifers Lupus maritimus arter tripolium Puccinellia Vlantago maritima Lighterhun maritims 7 estuca mbo flux maritime Luceda Laticonia

Monchenbya amaritima Canx arenaria Elymus arenaria

The Lingus maritimes and foliconis bring about retailing and retartion of silt. When this is shoveled it is lever between parallel titches. More silt is deposited in the ditches. The silt is stirred of the form the bottom in shallow water by rough balligen Islands) weather.

Jestucy march just outside the dyles Testucy who hungers atterning maritime Purchase maritime Plantage maitime Simmium commune Jinglochin mantime francing or dense book.

On sides of ditches Obione portulacioneles Luaesta Cister tripolium

This is similar to what was on the land inside the dykes before they were built.

Inside dyles land is 600m-1m above mean ht. Roadvide ditches have some water teachylery heavy soil. Potentially a transinatum forme spentaneous of rasinar saplings along the stelles. Whous, also, talix eff. Alm. Barley, Wheat, beets, rape, hay rich meadows, but with much Ranningulus, increased by grazing. Pattle prof sheep both commin. Dyses covered by a lowsoft on justide much Camin carving of dyles,

the inner called sleeping dyles maintained in case oriter are breakled by waver. Ponds represent Greaces Evan which dyke material dype on which the wad goes to Madoliand is a belt of reclaimed land till at about ht. serving as partine for a lief. Aparting toursendin has been planted here and has spready proving very esse valuable in speeding if reclaimation. moth of this dyke is a large polder, mostly in wet meadow. Leaving this timband, ours very flat land to Halslett; meader land with some grain fields. Marshy ditches, with salie grain fields proportion increase north. Barley, so this must be reclaimed marsh rather than maine. Land cut by drainage ditches with consider. able water. - This is a "kroog" or polder, dighed off for 400 years. Struckin,

fields in the known are schoraled privacily by low earth walls. Hedger on these sometimes. Bredstedt - wad crosses an area of old moraine. Cross brighest point in mad Freshand. 28 m. Descend to Porgelune and Sterdelum, still on the morning, but with march (apolder) just to lot. The road now. your along an old, 15 the century degle. Ditched meadows. and field in the both sides. Black - White Holstein - Friesias cattle in abundance. no other Old houses built on mound for protection against storm tides. Were formerly on island. now reclamation and builting of slarge dy he now makes This unnecessary, and new poures are in level ground. Farge ditch jusile dyni, from Jobich material was taken Road very rendulating from being built on peat. Canal turns inland. Carnes water from two small nivers. Bottschlotte see m no. turn legt h main syke again.

Much of beauty of this
bleet country is in the
thately-roofed Friesian Islands.
(photos) Tudenswart
Newly reclaimed area sof Fahretoft.
On area subosed by sigging for
dyke marenal the old sitch system,
he 10 47 exposed filled by
more recent myde (photos)
on this bare clay, harlenelly
sulfates, balinnia, spergularis
+ festures suba are princers.

belt of Precincllis sort, separated from it by a ditch and low dyke.

Beyond this is a large ares of shorting townsending now a mostly truspending drained by lines of till packed in heather.

Beyond this is an men of dead falicomia on hard clay, with abundant seedlings. Amall patches of Financia also of fraeds and Presidentimes, atriples Were allo Im. or or troy across. a few of Sporting, larger.

Beyond this similar are but with dead buseta as well as habennia, larger plants.

Swaeda seedlings very abundard. Por trivialis (raw)

Harther out, just inside the main dyke, is an aring lower still, with a scattering of dead kalicinnia and a pew factionally nothing more. and some of this area still under water.

moth of Fahretoffer large areas of "hoog of predent, with ditches. grazed by cattle and sheet a bine for burn sod. In viery wet areas, solid sland of Chagmites Inland some branley fields. Large canal lined with Phragmetes. Roadvidedildes, also. Back of Ochsholmer Korg. Ochholm Cultivation and meadow. Enormous area of flat and ditched land. Standebill old morain begins. West Bordelum. Turned north on highway. View to west over knog see and the Halligen (Islands) in the horizon.

grehande Cellung heath with arnice (photo)

Calluna N. Rica tetralix annu genista pilosa Genisla anglica Levezmera atentilla tometitta enca Fuzzila multiplas Ledienlans Luzula zampestris Marches stricta Deschampsia plepussa In wet place northecium Drosera notundifolia Eriophorum myrica gale fallix repens Lingues caexpitosus Mollinia Potentilla erica Saliz cinerea: Callung Cirex panices Sphagnum Rhynchospora Salix ourita Phragmites Juneus squarrozus

180 1961 Jermann may 18 - Schleswig - Hamburg try can. In tehlerwing a Cratargus with bright rose pints flo. is a common street tree, Tilia is also common. just south of falleswing the highway to Rendeling passer onto the old morains landscape - very flat, no Corylus in horges. Wyo is frincipal crops, with meadows and pastures. a mule or two to the east is the hilly front of the young mornino. In the old moraine landscape here ffinala of is a very important parts component of the hedges, often the ontire north of Rendeburg is a considerable area mostly blanted to Picca frests. forms lanch and pine. (n. of Heidburge) fourth of this serve larch and sprice planted in mused stands. late frosts. Unseasonal frosts are an effective factor in limiting area of beach, acr. Trantman. worth of Jovenstall the hedges have a very mixed

composition, much sales. Rather little gren. forth of her some batches of Joins and of oak but carginetum, in moist soils. Then seattered patches of pine, then more borest both him and orale, near Biannes. fouth of this godgot on slightly lugher grounds violet soils locally browned on slopes, bloch in depression. mostly in age, some beets, som meddows. Geelger very musel, much oak and beed in there. model - gardens and freit trees around houses in suburbs. Neuminster Bad Branstedt The entire tip is through old morame landræage. some forest vorth of Hambring - langely out, of various beights. frichbon - triedrich gabe. meadowland with hedger. forme græin field - wheat? Ther a healt in to ye of a small wel.

Jamany 1961 May 28. Hamburg - Dusselder, (caravelle, left side) albe with fairly large lots, fruit trees, gardens. Wof Elbe land is intensively cultivated at frist in long grandled strips, Then in blocks. What of the houses as clumped in villages. Then a fair proportion of prine (?) great splanted in fairly large to small aggregations of blocks this mental less southward and some areas of natural oak (?) frant and beather. The prino or spruc frest patches are smaller, but fairly numerous, quite inequela perhaps 10% or less of total area, increasing to 50 % very breatly (incl. natural Grest and heath). House, still generally in villages rather than scattered on farm. Soil a light gray or gray- hour, sand color. Visibility becomes you before the m. german plain is graced.

182

no visibility for a bit, then similar pattern, blat country, a few small bits of facit. Pour visibility again. Outsbirts of Dusselday. many neat housing develop. ments and appartment developments, grassy or grain Bields between them. Alradplain of Shine windhamed very green. Firest between east and main channels. West of Kline some city development. Ohen of country about /7 to 1/4 world. City on hills, flat tops with zone cultivation Much Guest, some subdivisions. Firest obviously carefully managed. blocks clear cut, and in various stages of regrowth. mostly coniferous but some blocks of breech and possibly vals - lufinus. then open feelds and bousing developments for some distance as oilfurt is approached, then some more from. Then landed. 4:19.

May 28 - Dusseldry - Varis. Flood plains in meanders of Rhins completely cultivated in a regular rectangular pattern, Visibility bad for 15 minutes or so. Then of for a short distance. from a very brigh allitude the country appeared to be a vast moraice of roughly circular large areas of borest in a matrix of cultivates lang regular and about or less Than diameter of the frants. Then no visibility again. Offer about 10 minutes. deeply incised very regular meantless of a river en faested country. Then generally frasted country with flat cultivated valley bottoms, about 6 6 % wooded. Changed gradually to almost completely cultivated and grazed wooded along streams -galley forest and a few tiny patcher Pallen of cultivation restangular but orientation varies locally. after about 5 minutes patches of wood become frequent and & large area in middle distance. 10- 20 % of landscape worded, breally much less fairly lang patches, then

193 June 25 - Porodermill natur Preserve, Powdermill Run Westmareland Co. Penna. mixed deciderous frank 41859 mitchella repens prostrate; flowers white, built realit. abundant , 60 Ruzula commun June 25 - Cranesville Lwamp 1 61 Lugula occasional mes in dwarf scrub around periphery. of swamp on this fin sandy soil.

Kulani- it prism worksom

v shots beyond kulani,

might makeit. I bad spot beyon!

vog whord- it wet no good.

Hilins OK.

Kapour Beach lots

Ocean Rd.
can mobile but Rt.

does not want flowers ander to K. Placehold to Then sing green lakes and back track to Kapolis.

My to O vertouty above Kipula

F. P. Frederich # 41723.

Anschlüsse ab Strecken-Nr des Kursbuches ab Niederlahnstein 14.08
(E 14.21 St Goarshausen 14.49)
Mayen Ost 15.12
Cochem [Mos] 14.48 Trier 15.49 Luxembourg 17.05 Reims 20.56 Paris Est 22.53
Hatzenport 14.56
Boppard 15.03 Bingerbrück 15.40
(D 15.48 Bad Kreuznach 16.01
Bad Münster a St 16.10 Kaiserslautern 5 17.01 Homburg [Saar] 17.34
Saarbrücken 18.04)
Bad Ems 15.46 Limburg [L] 16.34
Ichluß nach Neustadt [Wstr]: an E 17.46 Niederlahnstein 14.08 Koblenz Hbf 14.00 (249c) D (263)(263) (249) tempeln (195)& Anschluß nach Neustadt [Wstr]: an E 17.46 E 15.20 Eltville 15.38 Rüdesheim [Rh] (250) Niedernhausen [Ts] 15.55 (16.00 Camberg [Nass] 16.23) an 15.27 Wiesbaden Hbf (195b) (16.00 Camberg [Nass] 16.23)
Bad Schwalbach 16.10
Mainz 15.44 (15.53 Rüsselsheim 16.10)
Gr Gerau 16.04 Darmstadt 16.17
Schlangenbad 16.32
Frankfurt-Höchst 16.27
(16.38 Bad Soden [Ts] 16.52 und a 17.18,
17.40 Königstein [Ts] 17.52, 18.11)
Worms 16.52 Ludwigshafen [Rh] 17.12
(D 17.24 Mannheim 17.30) 15.22 (195e) (317) E 15.35 den (2195/60) (250b) Unter E 16.05 (249a) a 16.20, 16.41 Bad Homburg 16.36, 16.42, 17.06

Mannheim 17.02 Kaiserslautern 18.00

Saarbrücken 18.48 Metz 19.50
(*) 19.54 Bar-le-Duc 20.48 Paris Est 23.46)

Heidelberg 17.15 Karlsruhe 17.52

Baden-Baden 18.18 Offenburg 18.43

Freiburg [Brsg] 19.24 Basel SBB 20.30

Friedberg [Hess] 16.43 B Nauheim 16.51

Gießen 17.23 (17.34 Marburg [L] 18.15)

Siegen 18.49 (196h) Frankfurt[M]Hbf (315a) D 🚗 | 16.12 (315)Adler-Werke D 16.15 (196) Gießen 17.23 (17.34 Marburg [L] 18.15 Siegen 18.49 Goddelau-Erfelden 16.55 Biblis 17.13 Lampertheim 17.25 c 16.41 Usingen 17.28 \(\Delta \) 17.53 E 16.48 Weinheim [Bgstr] 17.20, 17.51 E 16.35 Offenbach [M] 16.34, 16.46 Hanau 16.50, 16.59 † 16.40 Wächtersbach 17.48, 18.12 (a 17.51, 18.18 Bad Orb 18.01, 18.28) Kronberg [Ts] 16.54 a 16.59 Fulda 19.20 Bebra 20.45 Gießen 17.59 Kassel 19.28 Göttingen 20.21 Hannover 21.23 (315a) (192a) X 16.22 (192)(196n) 16.26 (192) c 16.40 (196) F 43 (17.14) "Roland" nden A Bad Homburg umsteigen X 17.42 Miltenberg 18.11, 18.43 Mömlingen Bf 17.55 Lohr Bf 18.00 b 17.04 X 17.42 Miltenberg a 17.15 Mömlingen Bf 17.55 E 17.23 Lohr Bf 18.00 Höchst [Odw] 19.04 (416d) (416f) (416) (416f) AschaffenburgHbf Bri 16.50 Jossa 18.19 (19.45 Brückenau Bad 20.10 Gemünden [M] (192) et Wildflecken 20.42) Karlstadt [M] 18.27 Hammelburg 19.12 Bad Kissingen 19.44 17.38 (416) (418d) Land 18.26 Lauda 18.55 (E 19.10 Bad Mergentheim 19.20 Crailsheim 20.37)
Heilbronn 20.09
Schweinfurt 19.00 Bamberg 19.54
Lichtenfels 20.26 (21.10 Coburg 21.36)
Neuenmarkt-Wirsberg 21.22
(22.01 Bayreuth 22.32) Hof 22.32
Steinach 19.25 (19.41 Rothenbg od 7 20.02)
Ansbach 19.52 Treuchtlingen 20.38
Eichstätt 21.06 Ingolstadt 21.33
19.27 Kitzingen 19.25, 19.54
Neustadt [Aisch] 20.31 Fürth [Bay] 20.56 D 18.18 Würzburg Hbf (322)t0 18.08 0,1 (415) E 19.48 Fortsetzung Seite 4

Fortsetzung von Seite 2

parbuch - Deine Reisekasse

an km	Strecken-Nr des Kursbuches	ab	Anschlüsse nach an	
Nürnberg Hb 19.27 Nürnberg Sitz der Triumph-Werke	(417) E	19.46 19.50 19.50 19.51 19.55 19.56 20.29 21.00 21.55	Dombühl 20.53 Neumarkt [Opf] 20.18 Regensburg 21.08 Plattling 22.00 (22.06 Passau 22.49) Erlangen 20.30 Forchheim [Opf] 20.52 Neukirchen 20.42 Weiden [Opf] 21.51 Feucht 20.10 Schwabach 20.21 Pleinfeld 20.57 Treuchtlingen 21.20 Donauwörth 21.57 Amberg 22.52 (50 c 22.55 50 a 23.15 Schwandorf 23.45, 0.10) Schnabelwaid 23.04 Bayreuth 23.23	
Augsburg Hbf 21.08 21.	(404a) (411d) (410c)	X 21.20 † 21.40 † 21.51 21.50 22.20 22.34 23.47	c 22.20 Aystetten 21.55, 22.55 23.10 Landsberg [Lech] 22.41, 0.22 a 22.35 c 23.25 Schroben- hausen 22.42, 23.26, 0.16 Gessertshausen 22.14 c c 23.20 Welden 23.15, 0.15 Dinkelscherben 23.11 Buchloe 0.40	
München Hbf 21.55 22.	(413a) (401b) (413) (428) E (428) D (428) D	22.10 22.26 † 22.30, 22.35 22.35 22.35	Rosenheim 23.18 Kufstein 23.44 Innsbruck 1.24 Bolzano/Bozen 4.43 Merano/Meran 5.42 Verona 6.54 Venezia SL 10.13 Verona 6.54 (@	
153,3		22.42 22.46 22.52 22.58 0 23.00, 0 23.10 23.12 23.20 23.29 23.35 0.05	Roma T 14.40 Prien 23.45 Traunstn 0.07 Freilassg 0.33 Wels 2.49 Linz 3.12 Wien West 6.20 Nannhofen 23.24 Freising 23.35 Herrsching 23.48 23.10 Weilheim [Obb] 23.41, 0.06 Murnau 23.58 Garm-Partenk 0.28 Mittenwald 0.56 Bad Wiessee 0.16 Tegernsee 0.35 Fürstenfeldbruck 23.43 Geltendorf 0.11 Landshut [Bay] 0.20 Dorfen Bf 0.34 Mühldorf [Obb] 1.03 Wolfratshausen 0.41 Kochel 1.45 Holzkirchen 0.55	
Salzburg Hbf 50.12 © 0. Badgastein 2.48 © 2.	Weitere Halte Hallein an 1.08 Bischofshofen Weiterer Halt	Gollin an 1.42 zwische	en Salzburg und Badgastein: g-Abtenau an 1.19 Schwarzach-St Veit an 1.59 en Badgastein und Spittal-Millst:	
Spittal-Millstätt 3.45		6.20	Lienz 7.42 S Candido/Innichen 9.20	
Villach Hbf	Weitere Halte	4.40 4.57 zwische an 5.16 aldes] c	Velden a W 4.53 Pörtschach a W 5.00 Krumpendorf 5.06 Klagenfurt 5.12 Tarvisio 5.30 Udine 7.45 Trieste C 9.30 en Villach und Ljubljana: Jesenice [Aßling] 📠 an 5.53 an 6.44 Kranj [Krainburg] an 7.11	
Ljubljana [Laiback 7.48 \S 8.3 Zagreb [Agram] 10.57 \S 11.	Weiterer Halt : Zidani Most 9.: Weitere Halte	11.03 Rijeka [Fiume] 14.42 Weiterer Halt zwischen Ljubljana und Zagreb: Zidani Most 9.34 Weitere Halte zwischen Zagreb und Beograd: Banova Jaruga 12.25 Novska 12.43 Slav Brod 13.52 Vinkovci 14.50		
Beograd Belgrad 17.01 18.1	% Grant ab N	§ 22.35 § 18.35 Sofija OEZ 5.10 Istanbul OEZ § 22.35 § 22.35 Weiterer Halt zwischen Nis und Athen:		
Athen OEZ 22.09	Thessaloniki [S	Thessaloniki [Saloniki] an OEZ 9.39		

"Ihr Zug-Begleiter" erscheint monatlich nach dem neuesten Stand des Fahrplans. Inhalt ohne Gewährl Herausgegeben in Zusammenarbeit mit der Deutschen Bundesbahn. Verlag Kultur u. Wissen GmbH., Abt. Fahrplan, Frankfurt/M., Münchener Str. 54, Tel. 331214/331196.

Druck: Phil. L. Fink KG., Groß-Gerau

" Ihr Zug-Begleiter"

Jugoslavia-Express

D 264

1. 2.

Den Haag - Emmerich - Köln - Bonn - Wiesbaden -Frankfurt [M] - Nürnberg - München - Salzburg -Villach - Beograd [Belgrad] - Athen

Den Haag - München

Den Haag - München

1. 2. Bruxelles - Venezia
2. Aachen - Meran
1. 2. München - Sofija
1. 2. München - Istanbul (ab München Mo, Mi, Sa)
1. 2. München - Trieste
1. 2. München - Beograd [Belgrad]
1. 2. München - Athen (ab München Di und Fr)
1. (Wien -) Beograd - Athen (ab Beograd Mo und Fr)



Bundeshauptstadt Bonn: Bundeshaus — Rheinseite Photo: Aero-Lux — freigegeben gem. min. Verfg. Nr. 312/56 Archiv Städt. Verkehrsamt Bonn





Wir wünschen Ihnen eine angenehme Reise! We wish you a pleasant journey!

"Ihr Zug-Begleiter" unterrichtet Sie auf den nachfolgenden Seiten über die Fahrzeiten und Anschlußmöglichkeiten dieses Zuges.



Die "Handschrift" moderner Menschen



Ausgabe: Mai 1961 (gültig bis 27. Mai 1961)

BITTE MITNEHMEN!

Jugoslavia-Express D 264

Den Haag - Emmerich - Köln - Bonn - Wiesbaden -Frankfurt [M] - Nürnberg - München - Salzburg -Villach - Beograd [Belgrad] - Athen

Erläuterungen: Tes = Trans-Europ-Express (), F = Fernschnellzug, D = Schnellzug, E = Eilzug, Triebwagen, X = werktags, † = sonn- u. feiertags, So = sonntags, Mo = montags, Di = dienstags, Mi = mittwochs, Do = donnerstags, Fr = freitags, Sa = sonnabends, a = X außer Sa, b = täglich außer Sa, c = † u. Sa, • = tägl. außer So, • = nur 1. Kl., () oder — = umsteigen, der oder = Kurs-bzu ilegewagen, se = Schlafwagen, e = Omnibuslinie (Bahn, Post oder Privat), weitere Buchstaben u. Zeichen s. Fußnoten. Die Fahrpreise werden nicht nach den km-Angaben in der Zuglaufspalte, sondern nach besonderen Tarifentfernungen berechnet. Bei den angegebenen Anschlüssen ist in einigen Fällen eine Umwegkarte erforderlich.

Postsparkassendienst Tag und Nacht in Bahnhofsnähe.

an km ab	Strecken-Nr	Anschlüsse nach an
Den Haag SS	des Kursbuches ab	chen Den Haag und Emmerich:
8.32	Utrecht CS an 9.15 /	ab 9.20 Arnhem an 9.58 / ab 10.14
Emmerich A	(235) 🖚 🗙 11.1	0, 12.06 Empel-Rees 11.30, 12.21
10.37		(55 12.25 Bocholt 13.15) Wesel 12.10, 12.48
Oberhausen Hbf	(227) E 11.2	6 Essen 11.43 Bochum 11.56 Witten 12.13 Hagen 12.32 (D 12.57 Kassel 16.16)
11.21 11.31	(227) E 11.2	
	(227) E 11.2	Paderborn 14.10) 6 Hagen 12.32 (D 12.57 Arnsberg [W] 13.51 Bestwig 14.21 Brilon Wald 14.44 B Wildungen 16.42)
	(236) E 11.2	
7,6	(235b) 11.3 (236a) 11.3 (235b) 11.5 (227) D 11.5	O Spellen [Nrh] 12.10 Gelsenkirchen Zoo 12.17 Duisburg-Ruhrort 12.10
	(243a) 12.0 (236) 12.1	D 15.03 Osnabrück 16.09 Bremen 17.38 Hamburg 19.07) Bielefeld 14.15 Herford 14.30 Minden [W] 14.57 Hannover 15.42 Braunschweig 16.54 12 Moers 12.31
Duisburg Hbf	(244) E 11.4	Viersen 12.16 M Gladbach 12.25
11.39	(232a) 12.0 (227) X 12.1	
Düsseldorf Hbf 11.58 12.01	(229) 12.1 (2245/21) 12.1 (227) 12.1 (228) E 12.3 (2246/3) 12.4	Elmpt Markt 13.58 Roermond Hbf 15.02 Leverkusen-Wiesdorf 12.41 Wuppertal-Elberfeld 13.14
Köln Hbf	(250) E 12.3	Linz [Rh] 13.30 Neuwied 13.51
12.28	(240b) % 12.4 (240) 12.4 (249) 12.4 (247) D 12.5	66 Overath 13.31 Gummersbach % 14.20 67 Brühl 13.06 60 Düren 13.14 Aachen 13.39 Liège [Lüttich] G 14.36 Bruxelles M 15.47
23,3	(228) E X 12.5 (251) E 12.5	
	(248) Sa 13.4 (248) E Sa 13.4	
Bonn	(249) 13.2	(15.56 Bud Nebellulli 14.12)
13.06 62 13.08	(247e) % 13.3 Fortsetzung S	Andernach 14.16 Rheinbach 14.06 Euskirchen 14.22

Fortsetzung von Seite 2 ab an km Strecken-Nr des Kursbuches ab Koblenz Hbf 14.00 (249c)

(248q)

(263)

(263) (249)

(315) (192a)

(192)

(415) (416)

13.53

13.45

Niederlahnstein, 14,08 (E 14.21 St Goarshausen 14.49) Mayen Ost 15.12 Cochem [Mos] 14.48 Trier 15.49 Luxem-bourg 17.05 Reims 20.56 Paris Est 22.53 14.17 Hatzenport 14.56
14.45 Boppard 15.03 Bingerbrück 15.40
(D 15.48 Bad Kreuznach 16.01
Bad Münster a St 16.10 Kaiserslautern & 17.01 Homburg [Saar] 17.34
Saarbrücken 18.04)
15.18 Bad Ems 15.46 Limburg [L] 16.34

an

Anschlüsse

nach

(195)ð Anschluß nach Neustadt [Wstr]: an E 17.46 Rüdesheim [Rh] E 15.20 Eltville 15.38 (250)

14.10 14.10

-

D

14.51 Niedernhausen [Ts] 15.55 (16.00 Camberg [Nass] 16.23) Bad Schwalbach 16.10 Mainz 15.44 (15.53 Rüsselsheim 16.10) Gr Gerau 16.04 Darmstadt 16.17 Schlangenbad 16.32 Wiesbaden Hbf (195b) 15.27 15.22 (195e) (317) E 15.35 16.00 (2195/60) (250b) E Frankfurt-Höchst 16.27 16.01 (16.38 Bad Soden [Ts] 16.52 **und** a 17.18, 17.40 Königstein [Ts] 17.52, 18.11) Worms 16.52 Ludwigshafen [Rh] 17.12 E (249a) 16.05 (D 17.24 Mannheim 17.30) Frankfurt[M]Hbf 16.11 (196h)

a 16.20, 16.41 Bad Hom-burg 16.36, 16.42, 17.06 Mannheim 17.02 Kaiserslautern 18.00 Saarbrücken 18.48 Metz 19.50 († 19.54 Bar-le-Duc 20.48 Paris Est 25.46) 16.06 (315a) D 🚓 | 16.12 Frankfurt/M (* 17.54 Bar-le-Duc 20.48 Paris Est 25.46)
Heidelberg 17.15 Karlsruhe 17.52
Baden-Baden 18.18 Offenburg 18.43
Freiburg [Brsg] 19.24 Basel SBB 20.30
Friedberg [Hess] 16.43 B Nauheim 16.51
Gießen 17.23 (17.34 Marburg [L] 18.15)
Siegen 18.49 (315) 16.15 Adler-Werke (196) -D 16.15 Goddelau-Erfelden 16.55 (315a)E 16.17 Biblis 17.13 Lampertheim 17.25 c 16.41 Usingen 17.28 Δ 17.53 E 16.48 Weinheim [Bgstr] 17.20, 17.51 E 16.35 Offenbach [M] 16.34, 16.46 a 16.20 E X 16.21 X 16.22 (196g)

† 16.40 Wächtersbach 17.48, 18.12 (a 17.51, 18.18 Bad Orb 18.01, 18.28) Kronberg (Ts) 16.54 a 16.59 Fulda 19.20 Bebra 20.45 Gießen 17.59 Kassel 19.28 Göttingen 20.21 Hannover 21.23 (196h) 16.26 (192)F 43 ← 17.14 "Roland" Δ Bad Homburg umsteigen AschaffenburgHbf b 17.04 X 17.42 Miltenberg 18.11, 18.43 (416d) Mömlingen Bf 17.55 Lohr Bf 18.00 Höchst [Odw] 19.04 (416f) a 17.15 16.50 (416) (416f) E

X 16.22

Hanau 16.50, 16.59

Gemünden [M] Jossa 18.19 (19.45 Brückenau Bad 20.10 (192)Wildflecken 20.42) Karlstadt [M] 18.27 Hammelburg 19.12 Bad Kissingen 19.44 17.40 17.38 18.16 18.26 (416) (418d) E

17.57

Lauda 18.55 (E 19.10 Bad Mergentheim 19.20 Crailsheim 20.37) Würzburg Hbf (322)D 18.18 heim 19.20 Crailsheim 20.37)
Heilbronn 20.09
Schweinfurt 19.00 Bamberg 19.54
Lichtenfels 20.26 (21.10 Coburg 21.36)
Neuenmarkt-Wirsberg 21.22
(22.01 Bayreuth 22.32) Hof 22.32
Steinach 19.25 (19.41 Rothenbg odT 20.02)
Ansbach 19.52 Treuchtlingen 20.38
Eichstätt 21.06 Ingolstadt 21.33
19.27 Kitzingen 19.25, 19.54
Neustadt [Aisch] 20.31 Fürth [Bay] 20.56 18.08 18.17 (419)(415)

19.48 Fortsetzung Seite 4

E † 18.24



Dein Postsparbuch - Deine Reisekasse

FLORISTISCH-SOZIOLOGISCHE ARBEITSGEMEINSCHAFT

(23) Stolzenau/Weser, 9. Mai 1961 Schinnaer Landstr. 6 Fernruf 353

2. Rundschreiben

an die Teilnehmer der Pflanzensoziologen-Tagung in Schleswig.

Zu der vom 25. - 27. Mai 1961 in Schleswig stattfindenden

Pflanzensoziologen-Tagung

mit den anschließenden Exkursionen durch die verschiedenen Diluvialund Alluvial-Landschaften Schleswigs haben sich über 100 Teilnehmer aus dem In- und Auslande gemeldet.

Die Tagung beginnt am Donnerstag d. 25. Mai 1961 um 9 Uhr c.t. in der Aula der städtischen Mittelschule (Brunc-Lorenzen-Schule) an der Allee (am Chemnitz-Bellmann-Denkmal; Parkplatz vor der Jugend-herberge).

Vortragsfolge:

- Dr. e.h. Willi Christiansen, Kiel: Die pflanzengeographische Sonderstellung Helgolands.
- Dr. Helmut Freitag, Potsdam: Flora und Vegetation des Stechlin-Sees.
- Dr. Uwe Jensen, Kiel: Ökologische Eichstufen in natürlicher oligotropher Moorvegetation und ihre Zusammenfassung zu ökologischen Stufenkomplexen. Die Ursachen der Artenarmut der ombrotrophen Moorvegetation.
- Dr. Heinz-Dieter Krausch, Potsdam: Vorschläge für die Gliederung der mitteleuropäischen Sand-Trockenrasen.
- cand. Friedrich-Wilhelm Röpke, Kiel: Die Buchenwaldgesellschaften Schleswigs.
- Kreisbeauftragter für Naturschutz und Landschaftspflege und Bauer Hans Möller, Schwensby: Einführung in die schleswigsche Landschaft anhand farbiger Lichtbilder.

Exkursionen:

- 25. Mai 15 Uhr Wanderung durch den Tiergarten zum Studium verschiedener Waldgesellschaften. Treffpunkt: vor Schloß Sottorp.

 2030 Uhr (Mittelschule) Vortrag Prof.Dr. Ernst-Wilhelm Raabe,
 Kiel: Eine Einführung in die Vegetationsgrundlagen SchleswigHolsteins.
- 26. Mai 8 Uhr. Treffpunkt: Schleihallenparkplatz.

 Exkursion an die schleswigsche Westküste: Silberstedt, Kratt
 Engelsburg, Husum, Schobüll Strand, Nordstrand.

 13-14 Uhr Mittagspause Norderhafen. Weiterfahrt durch die
 Köge nach Fahretoft, Fahretoft Koog, Bordelumer Heide, Jordelund.
 Rückkehr nach Schleswig gegen 1930 Uhr.
 Beisammensein der Teilnehmer im Wintergarten der Schleihalle
 (zwanglose Diskussionen).
- 27. Mai 8 Uhr ab Schleswig, Schleihallenparkplatz.

 Fahrt durch die Jungmoränen-Landschaft von Schwansen und Angeln:
 Bültsee, Missunde, Schwonsburg, Horstkoppel, Westerholz.

 13,30 14,20 Uhr Mittagspause.

 Langballigau, Glücksburg.

Rückkehr nach Schleswig gegen 19 Uhr.

Meldung und Beitrag: Die große Teilnehmerzahl macht die Einzahlung der Exkursionskosten (Autobus) in Höhe von 18,50 M bis zum 18. Mai 1961 auf das Postscheck-Konto Hannover Nr. 136555 der Floristisch-soziologischen Arbeitsgemeinschaft unbedingt notwendig. Benutzung von Privatwagen ist leider ausgeschlossen. Teilnehmer der Tagung, die nur die Vorträge, aber nicht die Autobus-Exkursionen mitmachen, zahlen nur 1, -- M Tagungsbeitrag. Die Teilnahme nur an der Autobus-Exkursion am 26. Mai kostet 9, -- M, nur am 27. Mai 8, -- M. Mit der Beitragszahlung bitten wir zugleich angeben zu wollen, wer an dem gemeinsamen einfachen Mittagessen am 25. und am 26. Mai teilnehmen will. Die Kosten dafür sind nicht in den oben genannten Exkursionskosten enthalten. Ein Quartier-Nachweis, vermittelt durch das Städtische Verkehrsbüro, Schleswig, Stadtweg 26, ist beigefügt (sofern Unterkunft bestellt worden ist). Evtl. Abbestellungen von Quartieren können ohne Kosten für den Gast nur dann berücksichtigt werden, wenn sie unmittelbar an das Städtische Verkehrsbüro Schleswig gerichtet werden und dort spätestens bis zum 19. Mai eintreffen. Eine Mitteilung an unsere Arbeitsgemeinschaft, daß die Teilnahme an der Tagung nicht erfolgen kann, gilt n i c h t als Quartier-Abbestellung. Den Teilnehmern, die mit dem Zuge fahren, wird empfohlen, sich sehr zeitig am Heimatbahnhof ein Formular für Fahrpreisermäßigung (331/3 %) für Lehrgangsbesucher abzuholen und das ausgefüllte Formular zum Abstempeln an den Unterzeichneten zu senden. Briefporto bitte beifügen. Mit freundlichen Grüßen und Auf Wiedersehen in Schleswig (Tüxen) pos M -10 W Anlagen: 1 Quartierschein 1 Zahlkarte

Kulani-if brism sonlism v shots beyond kulani, might makeit. I bad spot begins boy rehard - if wet no good. Hiling OK. Kapsens Beach lots Ocean RA. can male it but Atshould do in Revenue ander to K. Vreacht to Then via green likes and bad track & Kepolis. W to o vertout above Kipula Est 14 # Him mingsod A doed wat blook # F. P. Forbard

